

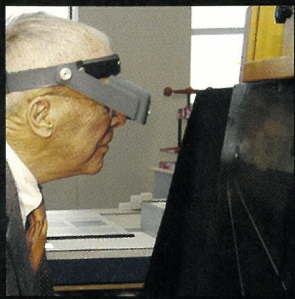
CANADIAN  
CONSERVATION  
INSTITUTE



INSTITUT  
CANADIEN DE  
CONSERVATION

# ANNUAL REPORT

## 2004-2005



Canadian Patrimoine  
Heritage canadien

Canada

# CCI Mission Statement

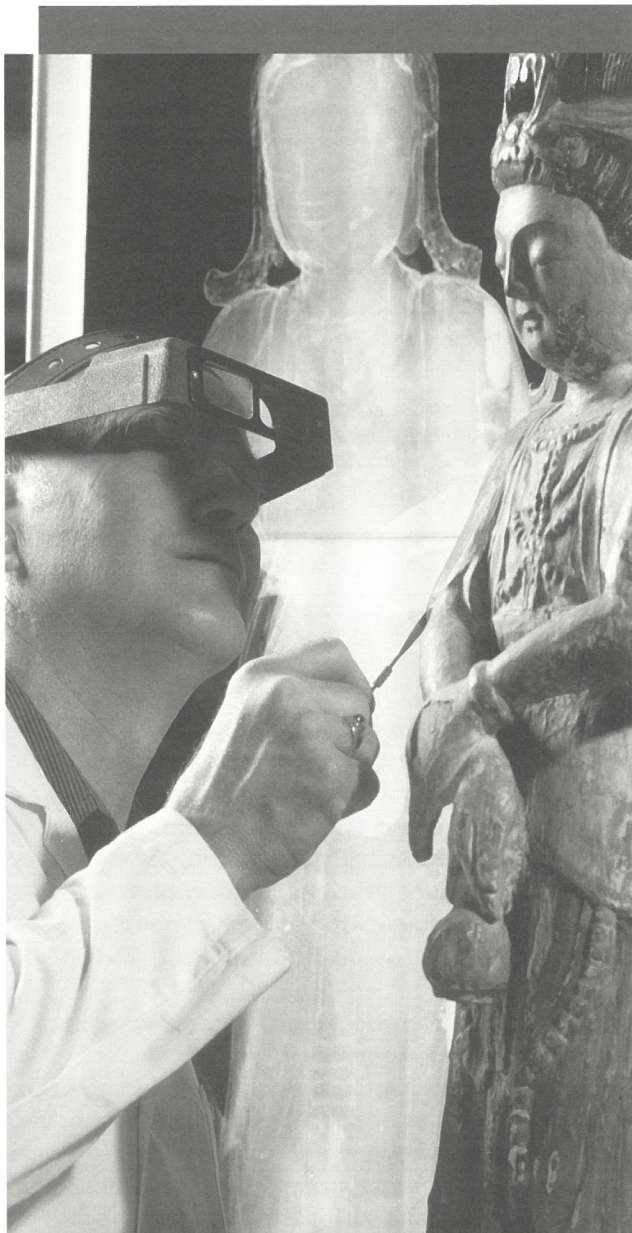
"We are committed to preserving Canadian heritage and supporting conservation and heritage institutions in Canada by creating and disseminating conservation knowledge and providing expert services."

## 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



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# Director General's Message



Looking back over my first year as Director General and Chief Operating Officer of CCI, I am proud to say that CCI staff have accomplished a great deal, under less than ideal circumstances.

Throughout the winter months, construction was going on all around us, albeit in carefully segregated parts of the building. And while we did not always see the work being done, we could certainly hear it and sometimes smell it.

Some of our conservators and scientists did not have access to their labs; many were fortunate in that they were given access to lab space at Parks Canada, the National Gallery of Canada, the Canadian Museum of Nature, and Library and Archives Canada. We are extremely grateful to these friends in Ottawa.

Certainly there has been an impact on client services, and a temporary refocussing of CCI activities: more site visits, development of workshops, and writing of publications. Over the past year, all 108 CCI Notes were reviewed and gaps identified; the next steps will be to update the Notes that need revision and to write new Notes to fill the gaps in knowledge. Many staff have been contributing to a new book on preventive conservation management, to be published in 2007, and several new Technical Bulletins are in development.

A number of staff have developed or refined training materials. Most notably, a team of scientists and conservators from CCI and Library and Archives Canada used their research on iron gall ink as the basis for a professional development workshop. Through our longstanding and vital partnership with the Centre de conservation du Québec, we again co-delivered workshops on key components of conservation.

Our scientists and conservators developed a Strategic Research and Development Framework that will be used to organize our current research and focus our future directions, and to ensure that the results of our research and development activities are technically sound, relevant to the Canadian heritage community, and contribute to conservation knowledge worldwide.

Working closely with two heritage programs in the Department of Canadian Heritage — the Movable Cultural Property Program and the Canada Travelling Exhibitions Indemnification Program — we have updated and consolidated the questionnaire used for technical assessments of heritage facilities.

Our Library reopened, our publications sales experienced a record year, and our Web site underwent a redesign to improve its client interface. We launched a review of our services, and made progress on the development of an e-Services portal and new Business Management System.

On the international stage, we have established and reconfirmed partnerships: with the International Centre for the Study of the Preservation and Restoration of Cultural Property in Rome for the summer school *Preventive Conservation: Reducing Risks to Collections*, and with the Getty Conservation Institute on a joint publication on the museum environment.

We also reorganized our Conservation and Scientific Services directorate to better reflect our core businesses of research, expert services, and capacity building, and to further strengthen our management team.

Internally, we have laid the foundation for some key strategies for managing, mentoring, and strengthening our staff. We have consolidated our forms for key commitments, appraisals, and learning plans. And we have developed, in partnership with the Human Resources Branch of the Department of Canadian Heritage, an approach for succession planning, which will be introduced in 2005–2006.

We have laid a solid foundation for the coming years for our staff, our research program, our expert services, and our capacity building — both training and publications. All of this is due to the dedication, professionalism, and fortitude of CCI employees during renovations of our main facility.

A handwritten signature in black ink that reads "Jeanne Inch". The signature is fluid and cursive, with a large loop at the end.

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

# Organization and Operation

CCI is a Special Operating Agency within the Department of Canadian Heritage. 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 movable cultural property and to advance the practice, science, and technology of conservation.

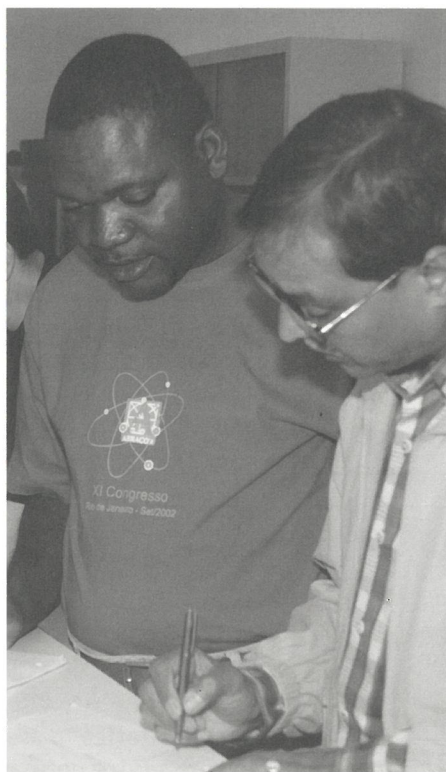
The Director General and Chief Operating Officer of CCI is accountable to the Deputy Minister of the Department of Canadian Heritage through the Executive Director of Heritage and the Assistant Deputy Minister, Citizenship and Heritage.

CCI is the Government of Canada's principal program for research, service delivery, and training in the field of heritage conservation. As a part of the Department of Canadian Heritage, 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 the Department'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 a Special Operating Agency, CCI is financed through appropriations received through the Department 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 2004-2005



**Jeanne E. Inch was appointed Director General and Chief Operating Officer of CCI in June 2004.** Ms. Inch brings to the Institute many years of management experience as well as expertise in university research, innovation policy development, international science and technology policy and programming, and public relations.

**Renovations to CCI's main facility** were in full force in 2004-2005, with the Library and many office spaces being completed. The retrofit of laboratories will continue into 2005-2006.

In June 2004, **Sir Sandford Fleming College in Peterborough, Ontario presented CCI with its Partnership in Education Award** in recognition of CCI's long-term commitment to the students of the Collections Conservation and Management and the Curatorship programs.



## TREATMENT AND ANALYSIS

**Work on Alex Colville's painting *Horse and Train* was completed** and the painting returned to the Art Gallery of Hamilton (AGH) in time to be included in the AGH exhibition "Lasting Impressions."

**Complex treatment of the 16th-century panel painting *Descente de croix* was completed** for the Musée des Augustines in Quebec City, and included in the Canadian Museum of Civilization's exhibition "Once in French America."

A team of **CCI textile conservators and scientists assisted in the assessment and planning of the conservation cleaning and restoration of the decorative stage curtain in the National Arts Centre (Ottawa) Southam Hall.** The curtain was created by Micheline Beauchemin in 1969.

**CCI staff continued their role as conservators and expert technical advisors in the restoration of the Parliamentary Precinct** to ensure the preservation of the heritage architectural features and fine art and collections of the Parliament Buildings.

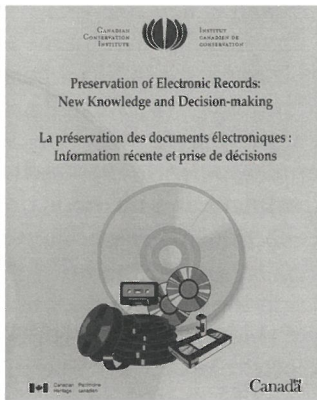
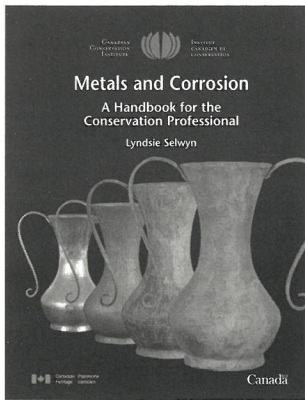
**More than 80 analytical projects were completed**, including the scientific examination of a rare painting on stone from the collection of the Musée national des beaux-arts du Québec and analysis of samples from an oil painting by Jean-Paul Jérôme for the National Gallery of Canada.

## ADVICE AND ASSISTANCE

**Eighty-nine site visits were carried out in eight provinces and territories to assess heritage facilities and provide expert advice on planning and upgrading.**



# Highlights 2004-2005



CCI staff responded to 1285 requests for information and services from heritage institutions or individuals; 82% of these inquiries originated in Canada and the other 18% came from 30 foreign countries.

In July 2004, CCI offered emergency assistance in Peterborough, Ontario when extensive flooding caused damage to heritage collections. With the assistance of expertise from Library and Archives Canada, CCI staff helped the Peterborough Centennial Museum and Archives coordinate the freeze-drying of the Basillie Collection of Roy Studio Images, a damaged photographic collection of glass-plate negatives of considerable local and national importance.

## KNOWLEDGE DISSEMINATION

The CCI Library, which reopened in the summer of 2004 following extensive renovation, added 173 titles to its collection and eliminated interlibrary loan and document delivery fees in Canada.

More than half a million visitors from 164 countries accessed CCI's two Web sites, and in excess of 2 million documents were viewed.

CCI released two books: *Metals and Corrosion: A Handbook for the Conservation Professional* and *Preservation of Electronic Records: New Knowledge and Decision-making*.

CCI co-delivered an international workshop *The History and Treatment of Works on Paper Containing Iron Gall Ink* in February 2005 in partnership with Library and Archives Canada and the Canadian Museum of Nature.

CCI staff participated and shared their expertise in conferences, lectures, workshops, and dialogue with fellow professionals across Canada as well as in the United States, Japan, Taiwan, Norway, Italy, Sweden, Korea, Australia, and The Netherlands.

Some CCI staff "hit the road" in the spring of 2004 with the *Canadian Antiques Roadshow* to raise awareness of preservation issues and connect collectors with the conservation community.

CCI delivered 13 workshops to heritage professionals, workers, and volunteers in eight provinces and territories.

CCI publications, including 33 000 CCI Notes, were distributed throughout Canada and the United States, as well as to 42 other countries around the world.

CCI's expert in risk assessment contributed a chapter "Care and Preservation of Collections" to the UNESCO/ICOM publication *Running a Museum: A Practical Handbook*. Although written in English, this book has been translated into Arabic to help address some of the museological training needs in Iraqi museums; a French language version is also planned.

CCI worked with the Ontario Museum Association to present a 2-day planning session *Community Museum Learning Rethink Project* for five museums in southwest Ontario to facilitate collaboration among these institutions and assist them in finding new and cooperative ways of achieving their goals.

# 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.

In 2004–2005, the Institute's research policy was reviewed and a Strategic Research and Development Framework developed. This framework examines areas of research priorities, and considerations when approving and designing research projects. It will be used to organize and communicate current research, and to focus future research directions.

The framework outlines the four types of interrelated and mutually supportive research performed by CCI:

- supporting research
- applied scientific research
- treatment and methods development
- collections preservation research

During the renovation of our laboratories, we were able to continue work on 14 major research projects thanks to Parks Canada, the National Gallery of Canada, the Canadian Museum of Nature, and Library and Archives Canada, which gave our scientists access to their facilities.

## SUPPORTING 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.

### **Quantitative image analysis for thermal microscopical measurements of collagen fibre shrinkage temperatures**

Work was completed in standardizing the many steps needed to convert digital video images of microscopic fibrous skin and leather samples into the numerical data used to identify the temperature at which samples begin to denature and shrink; results revealed deterioration at lower-than-normal onsets. This research has substantially improved the Institute's ability to provide treatment support for, and conduct research into, the preservation of collagenous materials in Canadian archival, archaeological, ethnographic, and natural history collections.

Several parchment documents of world renown have benefitted from this leading-edge technique, e.g. the Archimedes Palimpsest for the Walters Art Museum, Baltimore, MD, and the United States Declaration of Independence, Constitution, and Bill of Rights for the U.S. National Archives and Records Administration.

## APPLIED SCIENTIFIC RESEARCH

The majority of CCI research is applied scientific research that is undertaken to answer conservation questions; it results in new knowledge of treatments or collections based on an accumulation and interpretation of scientific data.

### **Materials and techniques of Cornelius Krieghoff**

A milestone in the Canadian Artists' Materials project was achieved with the completion of the assessment of the materials and techniques of 19th-century Canadian painter Cornelius Krieghoff. This research is part of a larger project designed to gain knowledge that will help Canadian institutions better understand the techniques of different Canadian artists, resolve attribution problems, identify fakes and forgeries, and undertake effective conservation treatment.

A comprehensive final report was prepared for the Art Gallery of Ontario. The 11 other institutions and private collections that participated received individual reports that included analytical results specific to the paintings held in their respective collections.

### **Presentation and publication of data on painter Jean-Paul Riopelle**

A lecture on the aesthetic considerations and conservation issues of painter Jean-Paul Riopelle was presented at the 30th annual conference of the Canadian Association for Conservation of Cultural Property in May 2004. In September 2004, a paper focussing on the analysis of selected samples from Riopelle's work, aimed at addressing specific conservation issues, was presented at the International Institute for Conservation of Historic and Artistic Works conference "Modern Art, New Museums" and published in the conference proceedings.

### **Technical and scientific examination of A.Y. Jackson paint boxes**

CCI added two unique paint boxes to its collection of reference painting materials in 2004. One had belonged to A.Y. Jackson of the Group of Seven and the other to his friend and fellow artist Dr. Barker Fairley. The A.Y. Jackson paint box is currently undergoing testing along with another of Jackson's paint boxes to document the paints used by the artist. Analysis of the paints will add to CCI's database of analytical and historical information on 20th-century Canadian artists. Ownership of the recently acquired Jackson box has been transferred to the Canadian Museum of Civilization.

### **Optical disc aging project**

Experiments on the disaster recovery of optical discs indicated substantial variability in stability between different commercially available discs. In this project, CD and DVD formats were subjected to standard tests to accelerate their degradation and disc types were ranked for relative stability. It was determined that the discs with best longevity are recordable CDs using phthalocyanine dye and a gold metal layer.

### **Remedies for damaged media**

At the suggestion of the Preservation Committee of the Canadian Council of Archives, CCI has been examining techniques that can make deteriorated or damaged media playable. This research revealed that, although a variety of remedies are available, many are high risk and should be used only as a last resort. A Technical Bulletin discussing common deterioration problems and associated remedies will be published in 2005.

### **Preserving Canadian iron gall ink collections**

Iron gall ink was used extensively in Canada in the 19th century and is present in many important Canadian archival collections. Although documents created with this writing medium comprise only a small amount of Canada's archival collections, they represent a large proportion of the early archival records. The Canadian Iron Gall Ink Project was developed to identify at-risk collections and preserve them before damage takes place. Partnering with CCI in this project were Library and Archives Canada, the Council of Archives of New Brunswick, and the Canadian Museum of Nature. In recognition of its value, the project received a Departmental Deputy Minister's Award in 2005.

One important aspect of the project is research into paper simmering. Before applying this treatment to an ink-corroded James G. McKay sketchbook, housed in Library and Archives Canada, simmering experiments were carried out on 18th-century book papers. The treatment was successful in improving the stability of the papers.

As part of the project, an international workshop *The History and Treatment of Works on Paper Containing Iron Gall Ink* was delivered in partnership with Library and Archives Canada and the Canadian Museum of Nature in February 2005.



## TREATMENT AND METHODS DEVELOPMENT

Treatment and methods development, normally led by conservators, is aimed at developing practical solutions to challenges with conservation methods or artifact preservation.

### The effectiveness of bathophenanthroline test strips for identifying iron ions on textiles

The purpose of this research project was to determine if bathophenanthroline test strips, originally developed for identifying iron(II) and iron(III) ions in iron gall ink on manuscripts, can also be used to identify iron(II) on a variety of textiles. The strips were found to be effective in identifying the presence of iron in cellulosic textiles and in acidic collagen and silk fibres. However, in many cases, they were unable to detect iron in keratin fibres.

Contributors to this project included the Canadian Museum of Civilization, Parks Canada, the McCord Museum of Canadian History, the Royal Ontario Museum, the Royal British Columbia Museum, the Museum of Anthropology, the University of British Columbia, and private textile researchers.

## COLLECTIONS PRESERVATION RESEARCH

CCI conservators and scientists perform collections preservation research to develop frameworks, tools, or standards that enhance the preservation of heritage collections. This research is often referred to as preventive conservation and results in improved decision-making and cost-effective management of heritage collections to minimize deterioration.

### Analysis of mammal storage cabinet infestation severity

This 10-year project, begun in 1994 in partnership with the National Museum of Natural History, Smithsonian Institution in Washington, DC, focusses on devising a visual inspection protocol and treatment regime to protect collections from pest damage.

Research has indicated that certain cabinet types are more likely to experience repetitive infestation, demonstrating the need for the replacement of certain types of cabinets in the Smithsonian. The 2003–2004 inspection results, summary data, and the preliminary analysis have been entered into a database.

The preliminary results of this work have been delivered at Integrated Pest Management workshops and meetings, including the 2004 joint workshop developed and delivered with colleagues from the National Research Institute for Cultural Property in Tokyo, Japan.

## Risk assessment

Risk assessment is becoming increasingly recognized as a valuable tool in the preservation of heritage collections. CCI has been active in this area for several years, building on work that was done in developing and applying a survey software tool for military museums in Canada. The Institute is currently partnering with the Canadian Museum of Nature to take advantage of the expertise in risk assessment that has been developed in both institutions.

CCI currently has two research projects in this area. One is the development of the "Preservation Advisor," a software knowledge-based tool that is intended to give advice on care of collections based on a risk approach to collections in various environments. A second project is also based on a risk approach to collections, but this one is linked to the facilities assessments that CCI carries out in support of the Movable Cultural Property Program and the Canada Travelling Exhibitions Indemnification Program of the Department of Canadian Heritage. The intent of this project is to develop an interactive application tool that will allow institutions to see the impact of different elements in their facilities (such as sprinkler systems or humidity control) on the overall threat to their collections.

The Institute is also beginning to integrate risk assessment into other activities. For example, again with the assistance of the Canadian Museum of Nature, a risk model has been used to develop a survey form as part of research on objects containing iron gall ink. Data from this survey will be used to provide valuable information about the type of iron gall ink documents in various archives, and their condition.



Japanese are famous for exchanging business cards. "Mushimeishi" (meaning insect business cards) were modelled after Japanese game cards, and contain images of insects along with information on their systematics, material damage, life cycle, and hazard ratings. To facilitate introductions at the Tokyo conference, participants were provided with a selection of these cards and invited to trade them with each other.

## 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. During renovation, some services requiring climate-controlled laboratory space and fume hoods have been temporarily discontinued, although some conservators have continued to do treatments at heritage institutions in the National Capital Region: Parks Canada, the National Gallery of Canada, the Canadian Museum of Nature, and Library and Archives Canada have all been generous friends

to CCI. Other services, such as those for the Parliamentary Precinct and for archaeological sites, were delivered in the field.

### 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 2004–2005, more than 80 analytical projects were completed.

#### A sampling of scientific examinations

- Analysis of a sample of imitation stone from a religious monument, *Sacré-Coeur*, in Sorel for the Centre de conservation du Québec to determine the composition of the material and to assist with conservation treatment decisions.
- Analysis of fatty acid efflorescence and exudates on paintings by Luis Feito in the collection of the Musée d'art contemporain de Montréal and a painting by Catherine Robb Whyte in the Whyte Museum of the Canadian Rockies. CCI continues to document and study occurrences of efflorescence and exudates on paintings.
- Analysis of samples from an oil painting by Jean-Paul Jérôme from the National Gallery of Canada collection. Analysis showed that an acrylic medium had been applied to the surface of the painting and was absorbed into the lean paint layer, which is now bound in acrylic. This information was key in making decisions regarding the treatment.
- Analysis of the materials of *L'Adoration des mages* by Claude Vignon for the parish of Saint-Henri de Lévis. The painting had been enlarged to fit the format of other paintings in the church and, over the years, was extensively overpainted. CCI staff brought the painting back to its original format and removed overpaints. Analysis showed that the artist used a rich palette.
- Survey of pesticide use at the Canadian Museum of Civilization comprising the sampling and analysis of 24 Chilkat blankets to detect the presence of arsenic, mercury, lead, and organic pesticide residues.

## TREATMENT

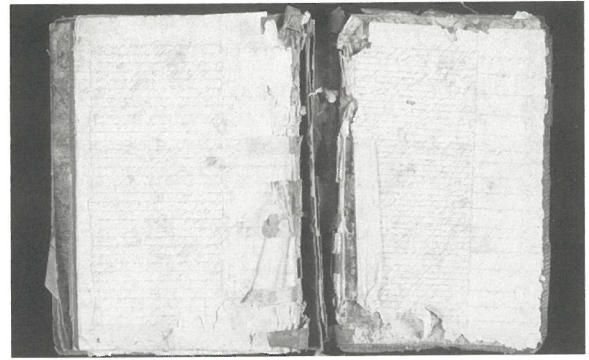
The Institute's goal is to assess, treat, and provide guidelines for the continued care of objects that represent Canada's national identity and many diverse cultures. Expertise is available in textiles, fine arts, works on paper, decorative arts and furniture, archaeological objects, ethnographic objects, and industrial collections. Treatment projects often require the expertise of both conservators and conservation scientists.

A selection of treatment projects is presented below.

### **Alex Colville's painting *Horse and Train***

Assessment and analysis of this painting, owned by the Art Gallery of Hamilton (AGH), required study of the artist's techniques, consultations with the artist himself, and examination of other paintings by the artist, as well as associated documentation and technical photodocumentation. A light surface cleaning was completed and inpainting of minor abrasions to the painting and its original frame was accomplished. An article "Conserving a Canadian Icon: The Materials and Technique of Alex Colville's *Horse and Train*" was written for the AGH's "Lasting Impressions" exhibition catalogue.

"I would like to extend our sincere gratitude for the support and guidance that CCI has afforded the AGH. By examining and treating this work, it not only allowed us to benefit from the expertise of your staff, but also made it possible to treat one of the undisputed icons of our permanent collection and Canadian art." — Louise Dompierre, President and CEO of the Art Gallery of Hamilton



### ***Daverne Journal***

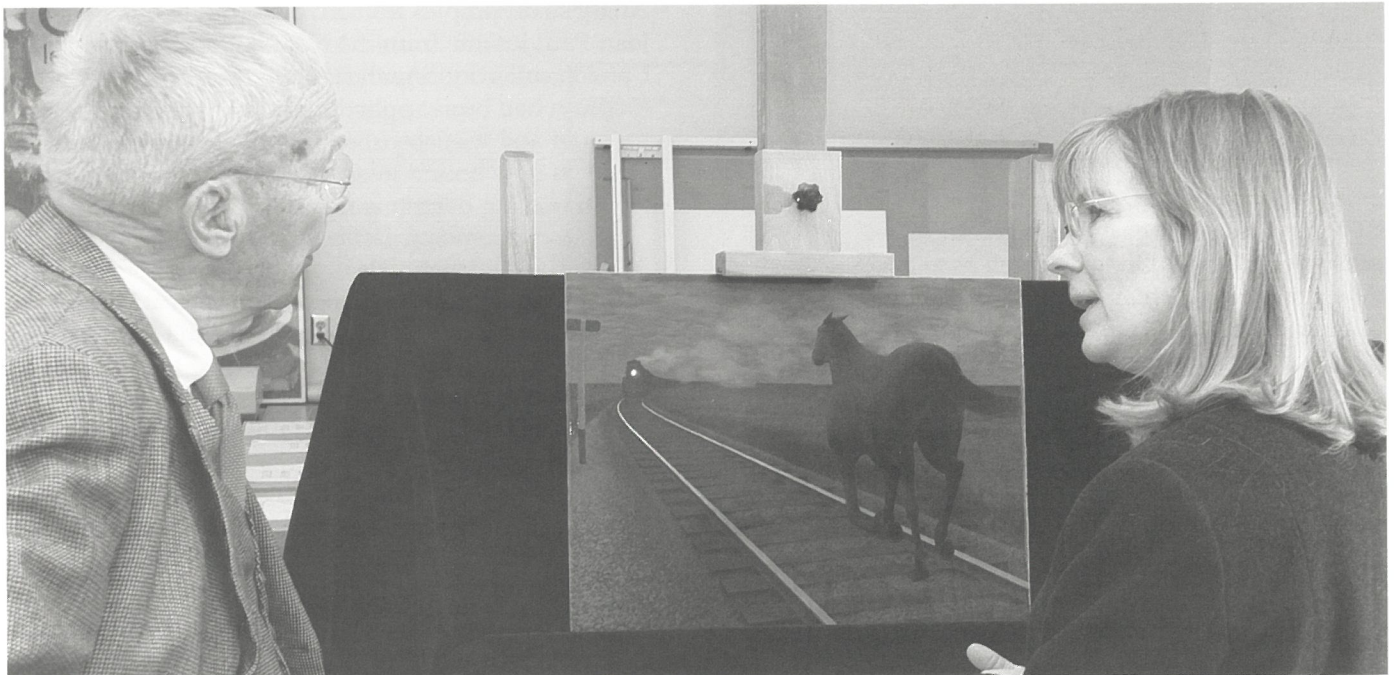
The *Daverne Journal*, a Perth Military Entry Book that was kept by Daniel Joseph Daverne from 1815 to 1818, contains important information about the history of Perth, Ontario. It was heavily damaged by water and mould, and some areas of the text were illegible. Conservation consisted of aqueous treatments, and physical strengthening and re-binding of the text block. Treatment significantly improved the legibility of the book, making it possible to transcribe the contents and reveal a surprising twist on local history. Partners in this project included former CCI conservator David Hanington, Library and Archives Canada, and Parks Canada.

"I had a vague idea of what the book looked like before you transformed it but your [before and after] slides certainly opened my eyes to the challenge you faced and the remarkable skills you must possess."

— Clark Theobald, a Perth researcher

### **Flintlock Musket**

This 1794 British musket, which belongs to the Northwest Territories Department of Culture,



Language, Elders and Youth, was found lying exposed on open ground by an Inuit hunter. The metal parts were complete, but only the butt of the wooden stock remained. How the gun came to be there, and how long it had been in the open, are questions that have still to be answered. CCI cleaned, stabilized, and mounted the parts of the gun on a board in the relationship they would have had when the gun was complete. When treatment was completed, the musket was returned to the Department of Culture, Language, Elders and Youth.

#### **National Arts Centre decorative stage curtain**

The decorative curtain in the National Arts Centre Southam Hall is considered one of Canada's national treasures. It was created by Micheline Beauchemin in 1969. CCI tested the curtain's material to determine its condition and ability to withstand conventional conservation cleaning methods. The effects of various cleaning procedures were tested on minute samples removed from the curtain. Test methods included analysis by infrared spectroscopy, tensile testing, thermal analysis, scanning electron microscopy, and X-ray microanalysis. It was determined that, if necessary, moisture could be used to clean the curtain. From this project, CCI conservators and scientists have achieved a new level of expertise in assessing the condition of, and developing treatment proposals for, works of art made from nylon.

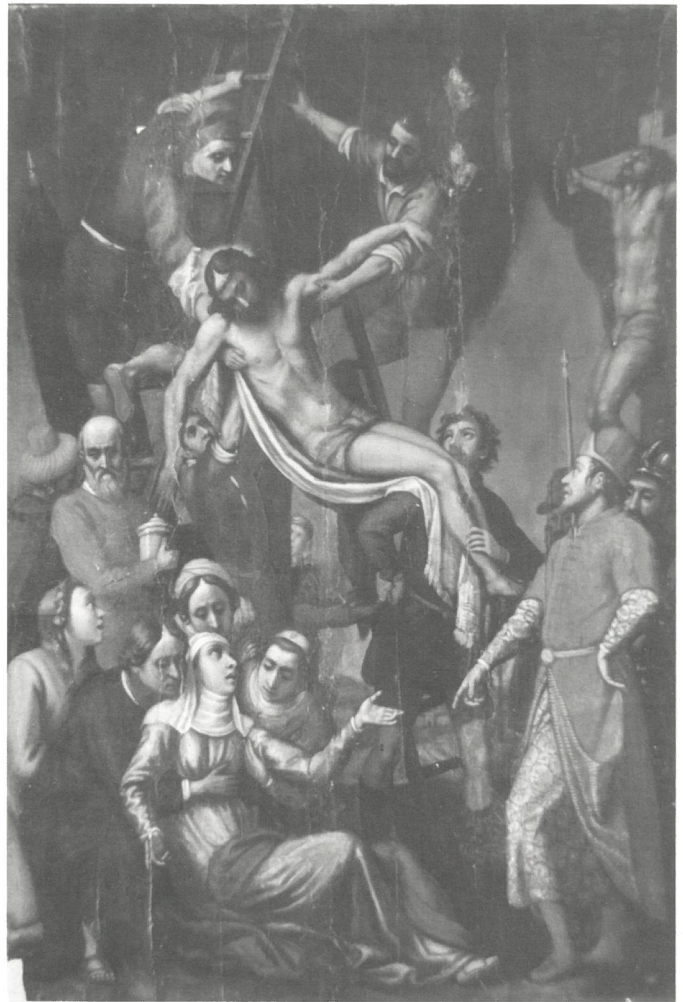
#### **Supreme Court of Canada Judge's Chair**

When one of the nine throne-like chairs had its right front leg knocked off while being handled during a 14-day court recess, CCI was contacted to conduct an immediate repair. The chair was transported to CCI for photodocumentation prior to treatment, then on to a Parks Canada lab for the actual repair which was carried out with white glue and padded clamps. The chair was then returned to CCI for after-treatment photographs and finally back to the Supreme Court in time for court to resume. In an effort to prevent future damage, CCI also provided instruction to court staff on how best to handle heritage furniture.

#### **16th-century painting *Descente de croix***

Complex treatment of this 16th-century panel painting belonging to the Musée des Augustines in Quebec City was completed in time for an exhibition — "Once in French America" — at the Canadian Museum of Civilization. Research into the materials and iconography uncovered peculiarities of sacred image painters of 16th-century Spain. Informal discussions with the National Gallery of Canada provided valuable information on the techniques of panel construction of the period. For more information, see "Anatomy of a Treatment" on the CCI Web site ([www.cci-icc.gc.ca](http://www.cci-icc.gc.ca)).

"This restoration, which took a great deal of work to complete, is magnificent, and we are proud



of it. Rest assured that I very much appreciate this quality professional work" (adapted from French).  
— Reverend Sister Nicole Perron, Director of the Musée des Augustines de l'Hôtel-Dieu de Québec.

#### **FIELD WORK**

CCI works extensively outside the Institute at sites in all parts of Canada. These visits range from conservation and treatment at archaeological sites to surveys of collections.

A selection of field projects is presented below; a more complete list can be found on pp. 21–22.

#### **Colony of Avalon archaeological project, Ferryland, Newfoundland**

CCI assisted in the stabilization and treatment of artifacts in the field conservation lab at the Colony of Avalon, a 17th-century English colony being excavated by archaeologists from the Memorial University of Newfoundland. The knowledge gained through this work was used in the development of CCI workshop modules.



**McCord Museum of Canadian History, Montreal, Quebec**

A CCI pilot program to survey collections for organic pesticides using gas chromatography mass spectrometry was launched at the McCord Museum. Approximately 100 Canadian Aboriginal artifacts in the museum's collection were sampled for organic pesticide residues as well as being analysed for inorganic pesticide residues using portable X-ray fluorescence spectrometry (XRF). Documentation suggested that some of the objects may have been treated with dichloro-diphenyl-trichloroethane (DDT) before the museum acquired them. The on-site analysis indicated that most of the collection was not contaminated by inorganic pesticides.

**Parliamentary Precinct, Ottawa, Ontario**

CCI, assisted by two private conservators, completed the second and final phase of treatment in the Senate Commerce and Banking Committee Room in the Centre Block of the Parliamentary Precinct. Ten marouflaged paintings were treated, and the entire ceiling/wall area was stabilized and integrated. The stabilization involved consolidation of heavily flaking ceiling and wall surfaces, the consolidation and restoration of water-induced damage and staining on ceilings, overpainting of sections of painted plaster on ceiling elements that were stained with water, and inpainting of losses on the ceilings and walls. An emergency stabilization treatment of two royal portraits in the Senate Foyer was also conducted, as was treatment of the 80-year-old teak and ebony floor in the Reading Room of the Senate.



**Ruggles River, Quttinirpaaq National Park, Ellesmere Island, Nunavut**

CCI provided on-site field conservation and training for a salvage excavation of a Thule site on the Ruggles River. This project was a collaboration between Parks Canada and the Department of Culture, Language, Elders and Youth of the Government of Nunavut.

**St. Ninian's Cathedral, Antigonish, Nova Scotia**

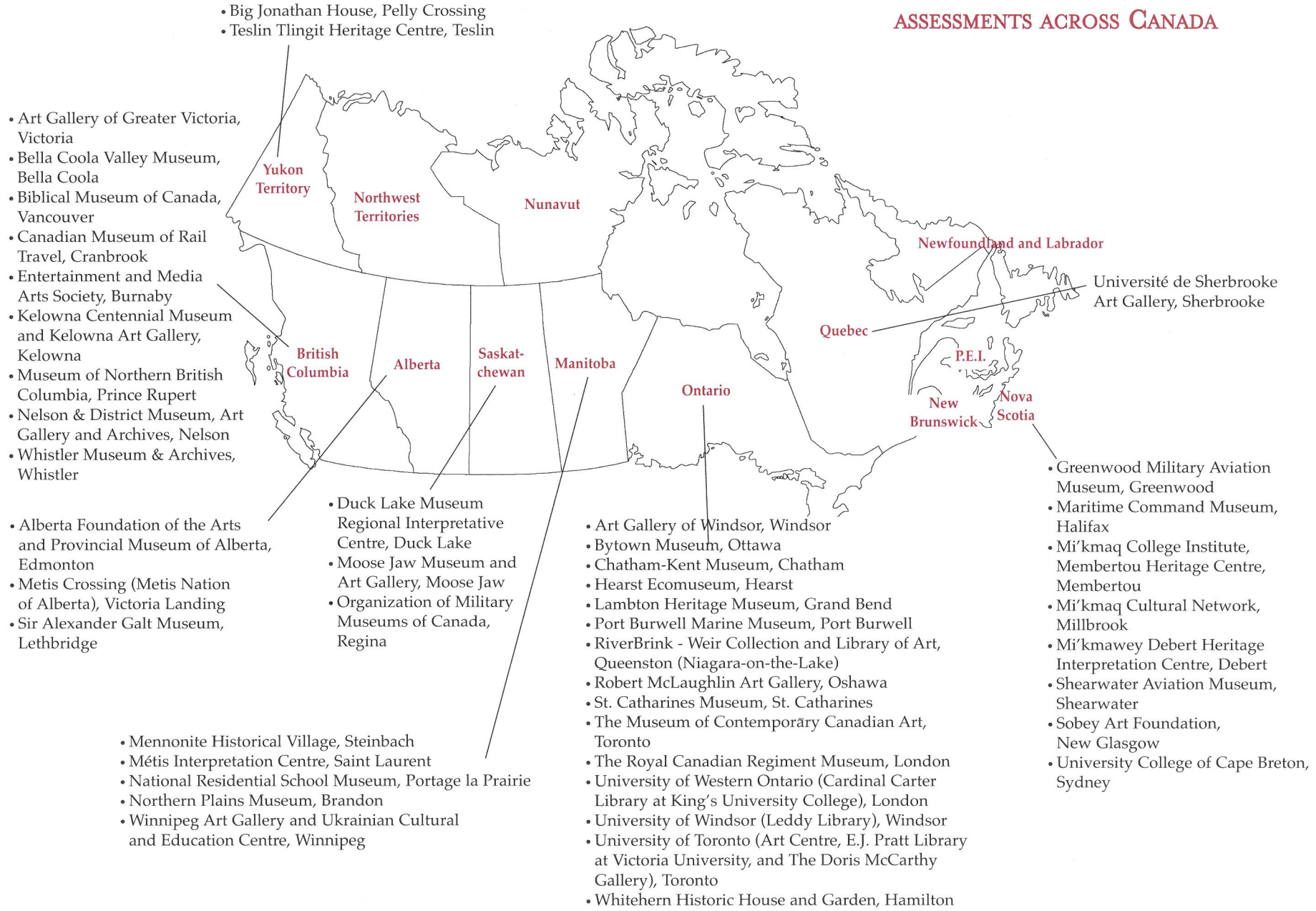
CCI provided guidance and direction for a possible restoration project on the interior of St. Ninian's Cathedral, a provincial heritage property in Nova Scotia. The interior of the cathedral was originally decorated in 1903 by artist Ozias Leduc.

**TECHNICAL ASSESSMENTS OF HERITAGE FACILITIES AND ADVICE ON PLANNING AND UPGRADING**

CCI provides a diverse range of consultation visits to clients across the country, including Aboriginal communities. In 2004–2005, CCI made 89 site visits in eight provinces and territories. The adjacent map provides a complete list of these visits.

One of CCI's roles is to provide technical assessments of heritage facilities for two Departmental programs: the Movable Cultural Property Program and the Canada Travelling Exhibitions Indemnification Program. To improve this service, CCI worked with staff from these programs and external experts to create one consolidated form that combines and updates their three previous separate forms for environmental, security, and fire protection assessments.

## SITE VISITS FOR FACILITIES ASSESSMENTS ACROSS CANADA



A selection of heritage facility projects is presented below.

### **Art Gallery of Greater Victoria, British Columbia**

CCI first visited the Art Gallery of Greater Victoria (AGGV) in 2000, at which time a number of deficiencies were identified. Successive visits during the following years have systematically resolved the issues so that by 2004 the AGGV had returned to an operational profile that met the requirements of the Movable Cultural Property Program and the Canada Travelling Exhibitions Indemnification Program. CCI's assistance also helped the AGGV improve their public profile in the community and increase their revenue.

"I know that this whole process was made very much smoother thanks to the expert advice and counseling provided by ... [CCI]."

— Pierre Arpin, Director and CEO, AGGV

### **Bytown Museum, Ottawa, Ontario / Diefenbunker, Canada's Cold War Museum, Carp, Ontario**

In preparation for the move of the Bytown Museum's stored collection to new storage space at the Diefenbunker, CCI assessed the nature of the stored collection, its state of readiness for the move, and the layout of the new storage space. Recommendations for the move were shared with staff of the Bytown Museum.

### **Kenderdine Art Gallery, University of Saskatchewan, Saskatoon, Saskatchewan**

CCI reviewed the facility design needs and operational profile required for the new gallery and collections storage space for the Kenderdine Art Gallery at the University of Saskatchewan. The art gallery is moving from a small controlled space into a large, purpose-built renovation of an older building on campus. CCI reviewed issues associated with the upgrading of an older building to environmental norms for the gallery with both gallery staff and the architects and engineers renovating the building.

### **Mi'kmaewey Debert Project, Debert, Nova Scotia**

CCI provided planning assistance for several initiatives of various bands within the Mi'kmaq First Nation of Nova Scotia. The largest is the proposed Mi'kmaewey Debert project near Truro, undertaken by the Confederacy of Mainland Mi'kmaq. Although the project has been formed around an important paleo-Indian site, the completed heritage centre will inform visitors

of the long history of the Mi'kmaq in Nova Scotia, as well as be a collection centre for all Mi'kmaq communities in the province. CCI provided guidance on the planning process, reviewed drafts of market and program analysis, and supported the client's steering committee with museum planning experience.

### **Mi'kmaq Cultural Network, Sydney, Nova Scotia**

The Membertou Band near Sydney has also begun the development of a cultural heritage centre. CCI assisted band management with the development of a concept that addresses both community objectives and its resources, and functioned as an external advisor in the creation of the Mi'kmaq Cultural Network (MCN), an ad-hoc body under the Mi'kmaq Association for Cultural Studies. The aim of the MCN is to coordinate the various projects within the province, and to undertake heritage projects that have the potential to affect many Nova Scotian Mi'kmaq communities. In addition, CCI taught segments of a course on heritage training for the Mi'kmaq Institute.

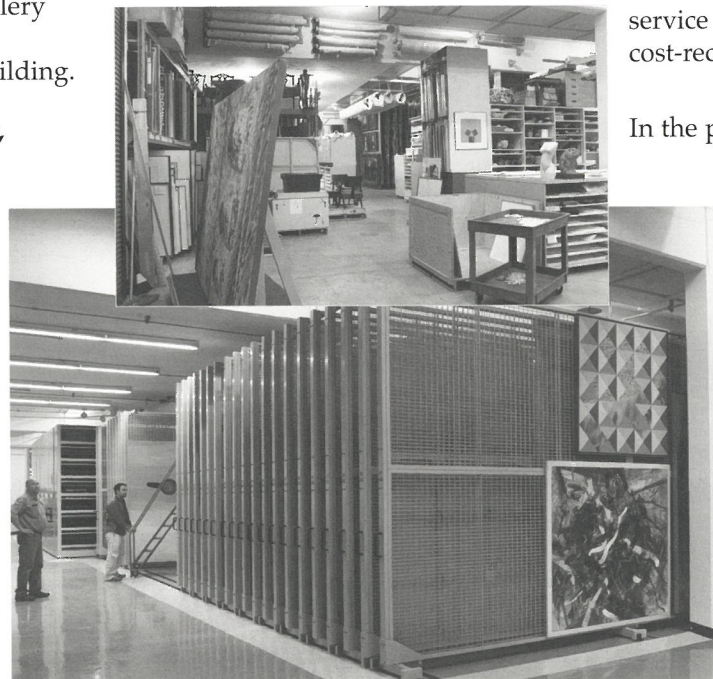
### **Winnipeg Art Gallery, Winnipeg, Manitoba**

As part of a multi-year renovation plan at the Winnipeg Art Gallery (WAG), western Canada's oldest public art gallery, the collections storage area was revamped to increase its capacity. CCI provided guidance in the upgrade of this area, a major project that included space optimization, improved lighting, and the installation of compact storage, movable racking, and a water-mist fire suppression system.

## **INCREASING ACCESS BY TRANSPORTING HERITAGE**

CCI's Exhibit Transportation Services (ETS) is dedicated to transporting fine art and exhibits and to providing climate-controlled facilities for Canada's museums, archives, and galleries. This service is provided on a cost-recovery basis.

In the past year, ETS vehicles travelled across Canada (including the Yukon and the Northwest Territories) and the United States, logging more than 447 000 km. Ninety-seven exhibitions were transported for 110 heritage institutions, as well as individual loans, acquisitions, and donations. ETS also upgraded the HVAC system in its 210-m<sup>2</sup> storage vault in Gatineau, Quebec.





CCI is a knowledge-based institution, and shares the results of its research and expertise with heritage institutions across Canada and around the world.

## TRAINING NEW HERITAGE PROFESSIONALS

CCI's educational initiatives are key to sustaining a high level of expertise in conservation in Canada. Every year, the Institute offers a variety of workshops for heritage professionals, staff, and volunteers. 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.

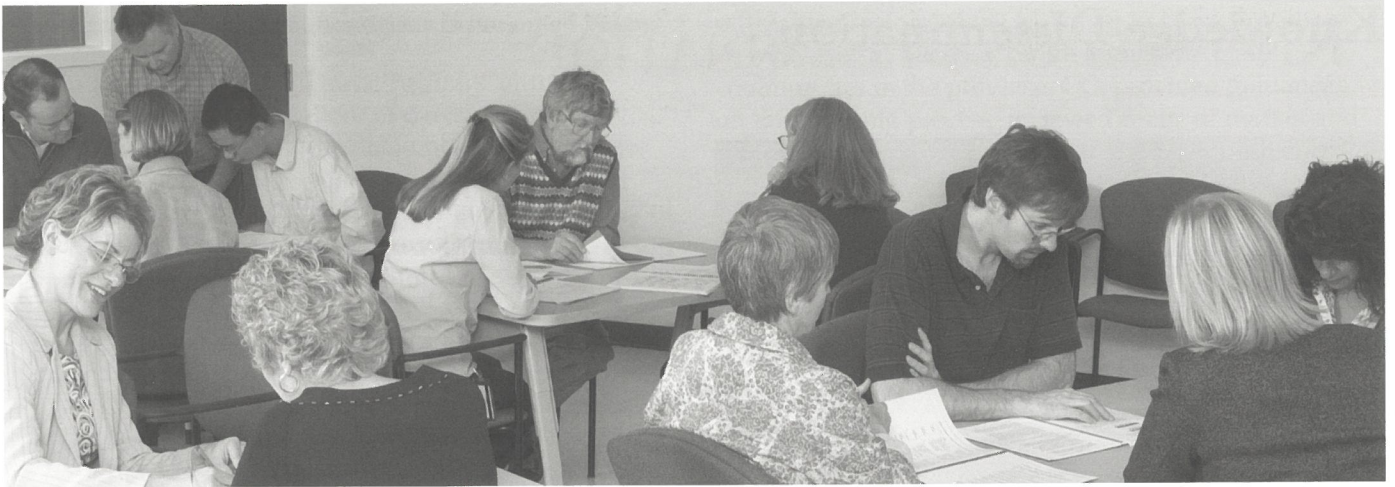
In 2004–2005, 13 workshops were delivered in eight provinces and territories (see p. 21 for a detailed list of workshops and locations).

CCI has established a memorandum of understanding with the Centre de conservation du Québec to collaborate on conservation workshops in that province. Under this agreement, the workshop *Les normes de conservation* ("Standards in Conservation") was jointly presented twice in Quebec in 2004–2005.

Because of the ongoing renovations at CCI's main facility, the Institute has been unable to offer internships to conservation students for the past 2 years. However, training was offered in other ways, including lectures and workshops at the following educational institutions:

- Sir Sandford Fleming College (SSFC) in Peterborough, Ontario — "Metals and Corrosion" was presented to students in the Collections Conservation and Management program; and "Mould in Heritage Collections" was presented to an audience that included SSFC students in the Collections Conservation and Management program and students in the Master of Art Conservation program at Queen's University.
- Queen's University in Kingston, Ontario — "Waterlogged Materials: Best Dream or Worst Nightmare"; "The Treatment of Waterlogged Archaeological Wood"; "An Introduction to Coins and Medals"; "A Discussion of Skin, Leather, Bone, Ivory and Keratin"; and the workshop *Conservation of Historical Furniture* were presented to students in the Master of Art Conservation program.
- York University in Toronto, Ontario — "The Examination and Treatment of Paintings in a Conservation Laboratory" and "Preventive Conservation Guidelines for Paintings" were presented to first-year art history students.
- First Nations University, Saskatoon, Saskatchewan — "Canadian Conservation Institute Services" was presented as part of *Preserving Our Cultural Property: A Workshop on Intellectual Property and the Preservation of Our Culture*.

Special efforts were also made to increase collaboration with Queen's University, and CCI continued to chair the advisory committee for the Collections Conservation and Management and the Curatorship programs at Sir Sandford Fleming College.



As well, a CCI textile conservator, in the capacity of a Visiting Scholar, taught the textile conservation component of the Master of Art Conservation program at Queen's University from January to March 2005.

"I see this new generation of conservation students as our partners. As well as giving me the opportunity to sharpen my teaching skills, this assignment helped clarify what knowledge and skills are most important for conservators to acquire during their formal training. It was also important to find the proper balance between teaching theory and practical hands-on skills."

— Jan Vuori, Visiting Scholar, Queen's University

### CCI PUBLICATIONS AND SPECIAL PRODUCTS

CCI's publication program is designed to provide practical information as well as leading-edge scientific knowledge to conservation professionals, collections managers, and others working in heritage institutions, archives, and art galleries.

In 2004–2005, CCI filled 1261 orders for publications, almost half of which were received through the online Bookstore. This represents a 59% increase in sales over the previous year. Publications were distributed throughout Canada and the United States, as well as to 42 other countries around the world.

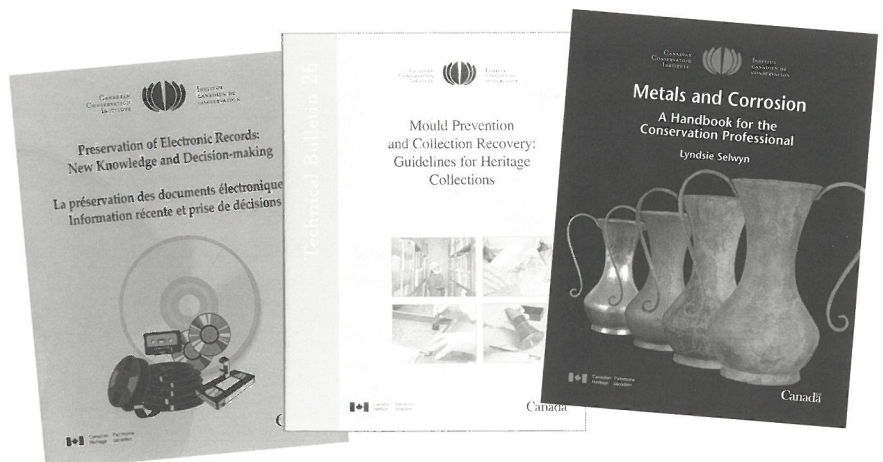
The most popular publications were:

- CCI Notes (more than 33 000 copies were sold)
- *Airborne Pollutants in Museums, Galleries, and Archives: Risk Assessment, Control Strategies, and Preservation Management*
- *Mount-making for Museum Objects*, second edition
- *Metals and Corrosion: A Handbook for the Conservation Professional*
- *Mould Prevention and Collection Recovery: Guidelines for Heritage Collections* (Technical Bulletin 26)

"A quick note to let you know how incredibly useful I've found your publication *Mould Prevention and Collection Recovery*. I field enquiries on mould from a diverse range of archives, museums and libraries, and to be able to reference a publication that speaks to Canadian health and safety standards, and offers practical mould removal methods, is really helpful." — Rosaleen Hill, Archives Association of British Columbia

Two new CCI publications were released this year:

- *Metals and Corrosion: A Handbook for the Conservation Professional* provides information about the chemical and physical characteristics and the corrosion products of nine common metals: aluminum, copper, gold, iron, lead, nickel, silver, tin, and zinc. It answers questions about these metals and their corrosion problems indoors; outdoors, and in archaeological settings, and is intended as a reference for conservators and conservation scientists.
- *Preservation of Electronic Records: New Knowledge and Decision-making* is a collection of postprints from a symposium co-hosted by CCI in Ottawa in 2003 to increase awareness of the issues surrounding the preservation of electronic records. The book includes



the complete text of all papers presented at the symposium (in the language of presentation) along with abstracts in both English and French for each.

Additional publications are also under development:

- A new Technical Bulletin *Remedies for Deteriorated or Damaged Modern Information Carriers* will be released in 2005.
- All of the CCI Notes have been reviewed as the first step in a multi-year plan to update and expand the series.
- Work has begun on *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. The production of this book, a compilation of work from about 60 contributors, is being coordinated by four CCI staff members serving as technical editors.
- Work has also begun on publications that will focus on facilities planning and development, and measuring and interpreting the pH of diverse media.

In addition to its in-house publications, CCI regularly contributes information and publishes the results of research and treatments in external books and journals. See p. 22 for a list of 2004–2005 publications in Canada, and p. 24 for international publications.

## THE CCI LIBRARY

The Library reopened in the summer of 2004 after a major renovation that created a more functional and attractive space. These improvements, coupled with the elimination of interlibrary loan and document delivery fees in Canada, resulted in an increase in the number of service transactions for external clients. In 2004–2005, the Library received 150 visitors, sent 595 books and photocopies of articles to external clients, and answered 102 external reference questions.

The Library's collection comprises 13 100 monographs, 802 serials, and 245 audiovisual materials (audiocassettes, CDs, videos, etc.). Through its contributions to the international bibliographic databases BCIN ([www.bcin.gc.ca](http://www.bcin.gc.ca)) and BMUSE ([www.chin.gc.ca](http://www.chin.gc.ca) under "Reference Library"), the CCI Library supports the dissemination of information to conservation and museum professionals worldwide. CCI's Director General is Chair of the board for BCIN, which includes as its contributing partners major conservation institutions and organizations around the world.

## REACHING OUT ON THE WEB

More than half a million visitors from 164 countries accessed CCI's main Web site ([www.cci-icc.gc.ca](http://www.cci-icc.gc.ca)) and the "Preserving my Heritage" site ([www.preservation.gc.ca](http://www.preservation.gc.ca)) this year, viewing in excess of 2 million documents. The top resources accessed on the main Web site were the Preservation Framework Online, the Conservation Information Database, and The Bookstore.

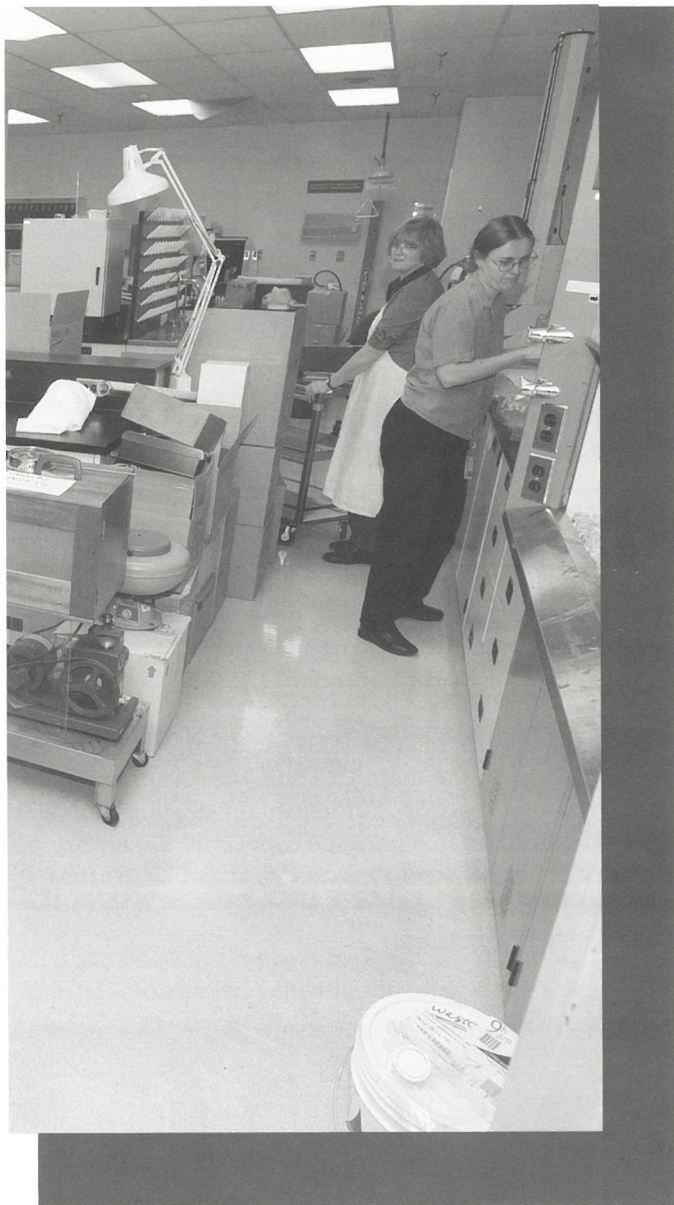
One-third of the visitors to the "Preserving my Heritage" site accessed the "How to care for" section. A new intermediate level of the game "Preservation Quest!" was also launched.

"What a wonderful service you have done by providing this information on the Web! I plan to tell all of my colleagues about this [Preserving my Heritage] site. We have plenty of patrons and friends ask us question about caring for their treasures. Now we know where to send them. Thank you!" — Laura Clark Brown, Head of Public Services, Manuscripts Department, University of North Carolina

Key Web activities in 2004–2005 included posting the following on the main CCI site: the "Anatomy of a Treatment" section, guidelines for dealing with a mould infestation in a heritage collection, the report *Research & Development Projects Canadian Conservation Institute 2003-2004*, and the Analytical Hierarchy Process (AHP) program.



# Strengthening our Operations



## CCI building renovations

A major overhaul of CCI's building was underway this past year. Renovations to the laboratories and office space will increase the Institute's efficiency and effectiveness, and also ensure a healthy and safe work environment for staff.

## Reorganization of Conservation and Scientific Services directorate

The Conservation and Scientific Services (CSS) directorate was reorganized, with the new structure to be implemented April 1, 2005. This was done to align CCI's organizational structure with its future direction,

to strengthen the management team, and to ensure that managers have a reasonable span of control. Under this new organization there will be five divisions within CSS: one conservation research division; two conservation divisions (one encompassing fine arts, paper, and textiles; and the other including objects, industrial collections, archaeology, and furniture); one division focussing on preservation services and training; and one division for analytical research and services. As part of this reorganization, CCI will be staffing three manager positions in the coming year: one for each of the conservation divisions and one for the analytical research division.

## Strengthening CCI's workforce

Jeanne E. Inch was appointed Director General and Chief Operating Officer of CCI in June 2004. Ms. Inch brings to the position many years of management experience and expertise in both the private and public sector, in the areas of university research, innovation policy development, international science and technology policy and programming, and public relations.

## Human resources management initiatives

In the last few years CCI has invested in the development of behavioural competency profiles for all staff positions. Competencies are a way of characterizing the knowledge, skill, ability, and behaviours that an employee applies in performing his/her work. As such, they can often be the key factors that allow an organization to carry out its mandate and business strategies. Competencies can be applied to numerous aspects of performance, and are increasingly used by many different



organizations to define the most productive behaviours. In addition, the profiles provide guidance to staff on the behaviours necessary to be successful in their current positions and advance to higher-level positions.

This year, CCI also established functional competencies for conservation professionals. New performance management guidelines and appraisal and behavioural plan templates were drafted to take into account competency expectations. It is expected that the broader heritage community will find the inclusion of key functional competencies for conservation scientists and conservators of great value.

### Staff achievements

#### Awards within the Department of Canadian Heritage

CCI received two Deputy Minister's Awards during Public Service Week in June 2004. The winning projects and teams were:

- the conservation treatment of James Barry's painting *The Death of Wolfe* — Debra Daly Hartin (team leader), Elizabeth Moffat, Jeremy Powell, Jane Sirois, and Peter Vogel
- CCI's role in the organization of Symposium 2003 "Preservation of Electronic Records: New Knowledge and Decision-making" — Jane Down (team leader), Christine Bradley, Sophie Georgiev, Bruce Gordon, Nicole Guénette-Allen, Joe Iraci, Colette Landry, Linda Leclerc, Barbara Patterson, Shanna Ramsay, Mary-Lou Simac, Tom Strang, and Linda Street

#### CCI awards

Jean Tétrault received the Technical Achievement Award for his research on the risk assessment approach to protecting heritage collections from airborne pollutants, and Shanna Ramsay received the Bon Appétit Award for her marketing initiatives in support of CCI activities.



## Conferences/Meetings

Association of Canadian Archivists Conference  
“Accountability and Ethics in the Archival Sphere,”  
Montreal, QC — CCI exhibited in the trade show.

Association of Manitoba Museums Annual  
Conference, Winnipeg, MB — CCI presented  
a session on “Museum Lighting.”

Association of Municipalities of Ontario Annual  
Conference, Ottawa, ON — CCI exhibited in the  
trade show.

British Columbia Museums Association  
Conference, Nanaimo, BC — CCI presented  
“Merged Competencies: Covering All The Bases?”  
and participated in a panel discussion in the session  
“Getting By With a Little Help From My Friends”;  
CCI also exhibited in the trade show.

Canadian Association for Conservation of Cultural  
Property (CAC) 30th Annual Conference, Quebec  
City, QC — CCI presented “On-site and On-track:  
Working with the Project Manager to Deliver the  
Goods: Reinstatement of a Stencilled Ceiling in the  
Main Lobby of the Federal Building, Winnipeg”;  
“La technique picturale de Jean-Paul Riopelle :  
esthétisme et conservation”; and “Degradation  
of Cyanoacrylate Adhesives in the Presence  
and Absence of Fossil Material.”

Creative City Network Annual Conference, Regina,  
SK — CCI presented “Aging Gracefully From New  
to Old: Lessons Learned in Developing, Conserving,  
and Preserving Public Art.”

Federation of Canadian Municipalities, Edmonton,  
AB — CCI exhibited in the trade show.

Haida Repatriation Conference, Massett, Queen  
Charlotte Islands (Haida Gwaii), BC — CCI  
presented “Caring for Aboriginal Collections.”

Museums Alberta Annual Conference, Grande  
Prairie, AB — CCI presented “Exhibits: Fabrication  
and Design, Part 1.”

Ontario Museum Association Annual Conference  
“Nogojwanong At the Foot of the Rapids,”  
Peterborough, ON — CCI presented “Preservation

of Modern Information Carriers”; and participated  
as a panelist in the session “Peterborough Flood  
and its Impact.”

## CCI also attended:

AV Preservation Trust Board Meetings, Ottawa  
and Toronto, ON.

Canadian Archaeological Association 37th Annual  
Meeting, Winnipeg, MB.

Canadian Association of Professional Conservators  
(CAPC) Annual General Meeting and a joint  
meeting between the Boards of Directors of  
the CAPC and the Canadian Association for  
Conservation, Quebec City, QC.

Canadian Museums Association Research Summit,  
Ottawa, ON.

Ontario Museum Association “Museum Rethink,”  
Chatham, ON.

Health and Safety Canada 2005 Industrial Accident  
Prevention Association Conference and Trade Show  
(“Effective Results through Learning and Sharing”),  
Toronto, ON.

## Lectures

“Adhesive Support Treatments for Textiles:  
Recent Research” and “Factors Affecting the Bond  
Strength of Heat and Solvent-reactivated Textile  
Artifact/ Adhesive/Support Fabric Laminates”  
were presented in collaboration with the Natural  
Sciences and Engineering Research Council at  
CCI in Ottawa, ON, to CCI staff and guests.

“Conservation Guidelines for Handling the Senate’s  
Heritage Furniture” was presented on Parliament  
Hill in Ottawa, ON, to the Senate Installations staff.

“Environmental Monitoring Equipment” and  
“Deterioration of Wooden Artifacts” were presented  
at the Canada Museum of Science and Technology  
in Ottawa, ON, as part of the Ontario Museum  
Association course “Artifacts.”

“Heritage, Value, Vulnerability and Science”  
was presented to Sigma Xi local chapter,  
Ottawa, ON.

# National Activities

"Interpreting Relative Humidity and Temperature Charts" was presented at the Library and Archives Canada (LAC) Gatineau Preservation Centre in Gatineau, QC, to collections managers of LAC.

"Reproducing a Doll's Sack Back Dress / Robe à la Française" was presented at Parks Canada, Ontario Service Centre in Ottawa, ON, to members of the Doll Guild of Ottawa.

"Treatment of the Daverne 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; in conjunction with this presentation, a brief introduction was given on the work of CCI.

## Workshops/Presentations

*Artifacts in Aboriginal Cultural Centres* was presented at the Woodland Cultural Centre in Brantford, ON, for the Ontario Museum Association; at the Nunatta Sunakkutaangit Museum in Iqaluit, NU; and at the Aboriginal Centre in Winnipeg, MB.

*Conservation of the Senate's Heritage Furniture* was presented at the old Printing Plant in Hull, QC, for the Senate of Canada.

*Emergency and Disaster Preparedness for Cultural Institutions* was presented for the British Columbia Museums Association at the Kelowna Art Gallery in Kelowna, BC.

*Les normes de conservation* ("Standards in Conservation"), a joint workshop with the Centre de conservation du Québec, was presented twice for the Société des musées québécois in Montreal, QC.

*Maintenance and Repair of Environmental Monitoring Equipment* was presented at the Library and Archives Canada (LAC) Gatineau Preservation Centre in Gatineau, QC, to collections managers of LAC.

*Photodocumentation* was presented for the Société des musées québécois in Montreal, QC.

*Preservation Management for Seasonal Museums* was presented at the Northern Life Museum in Fort Smith, NT.

*Preservation of Works of Art on Paper* was presented in Halifax, NS, for the Federation of Nova Scotia Heritage; and for Museums Alberta at the Nickle Arts Museum in Calgary, AB. Both workshops were presented in partnership with a private paper conservator.

*Salvage of Archival Collections* was presented in Ottawa, ON, as part of the House of Commons Resource Information Management Program. The workshop included a short presentation on "Disaster Recovery of Modern Information Carriers."

*Storage Planning for Cultural Institutions* was presented at the Beringia Centre in Whitehorse, YK.

*The History and Treatment of Works with Iron Gall Ink* (an advanced professional development workshop) was presented at the Library and Archives Canada (LAC) Gatineau Preservation Centre in Gatineau, QC, to 16 book and paper conservators.

## Field work

### Archaeology

Deadman Bay, Lake Ontario, ON — CCI worked with the Parks Canada Underwater Archaeological Services Unit to recover two wood pieces from the wreck of the ship *Princess Charlotte*. These highly characterized waterlogged wood samples had been underwater for 7 years as part of a long-term wood deterioration study.

Trent-Severn Waterway National Historic Site, ON — CCI worked with the Parks Canada Underwater Archaeological Services Unit to document submerged fish weir structures in Sunset Bay, Lovesick Lake, a site that is believed to be the oldest documented freshwater fish weir structure in Canada.

### Collections care

Saskatchewan Indian Cultural Centre, Saskatoon, SK — CCI inspected parts of the collection, and connected staff to CCI experts who could help with specific questions.

University of Lethbridge Art Gallery, Lethbridge, AB — CCI visited the art gallery to discuss their current and future activities for preservation of the collection.

## Fine arts

MacKenzie Art Gallery, Regina, SK — CCI examined two paintings by Cornelius Krieghoff in preparation for one of them coming to CCI for treatment.

## Heritage interiors

Supreme Court of Canada, Ottawa, ON — CCI investigated the walnut wall panelling in the Court Room to determine how it was attached and what was behind it, to facilitate research by other architectural consultants prior to a major renovation of the structure by Public Works and Government Services Canada. The walnut-panelled walls in the Judges' offices were also cleaned and polished.

West Memorial Building, Wellington Street, Ottawa, ON — CCI examined bronze elevator fixtures and provided advice on care and preservation of finishes.

## Objects

Canadian Museum of Nature, Ottawa, ON — CCI examined a diorama to determine if there is a second diorama hidden behind it.

H.M.C.S. *Glace Bay* and H.M.C.S. *Kingston*, south of Prince Edward County, Lake Ontario, ON — CCI provided on-site consultation to Arrow Recovery Canada and the Aerospace Heritage Foundation of Canada as they searched for models of the Avro Arrow CF-105.

Library and Archives Canada, Ottawa, ON — CCI prepared a condition report and treatment proposal for a plaster bust of Joseph-Israël Tarte (attributed to Louis-Philippe Hébert).

Ontario Lacrosse Hall of Fame and Museum, St. Catharines, ON — CCI inspected an early 20th-century lacrosse trophy that may be treated at some time in the future.

RCAF Memorial Museum, Trenton, ON — CCI inspected a Halifax bomber being restored by museum volunteers after its recovery from 50 years underwater in Lake Mjøsa, Norway, and the highly corroded wing of a Nike booster

rocket recovered from Lake Ontario, to see the condition of aircraft remains that have been submerged in freshwater environments for about the same amount of time as the Avro Arrow CF-105 test models located in Lake Ontario.

## Scientific analysis

Art Gallery of Ontario, Toronto, ON — CCI performed on-site infrared spectroscopic analysis of drawings and watercolours on paper and parchment to characterize their supports, media, and fixatives.

Fanshawe Pioneer Village, London, ON — CCI carried out an investigation of historic paint colours in four buildings: Lochaber Free Presbyterian Church, Trinity Anglican Church, Jury Farmhouse, and S.S. #19 Fanshawe School House, in support of a building restoration scheme that is being partially funded by a grant from the Benjamin Moore Community Restoration Program.

## External Canadian publications

"Considérations sur la technique picturale de Riopelle et la restauration: Considerations regarding Riopelle's pictorial technique and conservation." pp. 19–25 in *Jean Paul Riopelle: Catalogue raisonné Tome 2 1954–1959*. Moudon, Montréal: Acatos, Hibou Editeurs, 2004.

*Preservation: Principles and Practice*. Ottawa, ON: Algonquin Publishing Centre, 2003.

"The Use of Simmering Water in the Treatment of a Nineteenth Century Sketchbook of Iron Gall Ink Drawings by James G. Mackay." *Journal of the Canadian Association for Conservation*, Vol. 28, 2003, pp. 3–15.

## National professional contributions

Many CCI staff serve on the boards of national heritage organizations including:

- AV Preservation Trust
- Canadian Association of Professional Conservators
- Organizing Committee for the 2006 Annual Meeting of the Canadian Museums Association

# International Activities

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.

## Conferences/Meetings

Alaska Anthropological Association 31st Annual Conference, Whitehorse, YK — CCI presented “The Characterization of Paint and Adhesive Residues on Hunting Tools from Southern Yukon Ice Patches” in the session “Recent Investigations of Alpine Ice Patches Reports from Yukon and Alaska.”

American Chemical Society 36th Central Regional Meeting, Indianapolis, IN — CCI presented “The Scientific Examination of the Sanders Portrait of William Shakespeare” as part of the symposium “Chemistry, Art, and Archaeology.”

American Institute for Conservation of Historic and Artistic Works (AIC) 32nd Annual Meeting, Portland, OR — CCI presented “Nd:YAG Laser Cleaning: Further Developments on the Yellowing Issue” within the “Objects Specialty Group” session; “From Slide Rule to Database: Development of a Computerized User-friendly Light Damage Calculator” in the “Research and Technical Studies” group; and “The Art of Cleaning Paper and Textiles: Strategies and Techniques of Using Water, Bleaches, and Enzymes.” In addition, CCI was also a presenter during the “Demonstration of Various Materials Cleaned with a Laser” and exhibited in the trade fair.

Conservation and Restoration of Cultural Property 28th International Symposium (“Non-destructive Examination of Cultural Objects — Recent Advances in X-ray Analysis”), Tokyo, Japan — CCI presented “On Miniaturized Equipment and Microsamples: XRF and XRD at CCI.”

Eastern Analytical Symposium and Exposition, Somerset, NJ — CCI presented “Analytical Surveys of Museum Collections to Detect the Presence of Pesticide Residues” in the session “Contaminated Collections and Inherent Collection Hazards.”

First Brazilian Forum on Cultural Properties, Brazil — CCI presented “Multidisciplinary Aspects of Conservation Science.”

Indoor Air Quality in Museums and Archives 6th Indoor Air Quality Meeting, Padova, Italy — CCI

presented “Preservation Based on a Risk Management Approach.”

International Council of Museums 20th General Conference, Seoul, Korea — CCI presented “The Challenge of the Preservation of Intangible Heritage: The Importance of Electronic Media.”

International Institute for Conservation of Historic and Artistic Works 20th International Congress “Modern Art, New Museums,” Bilbao, Spain — CCI presented “Analysis of the Painted Œuvre of Jean-Paul Riopelle: From Oil to Mixed Media.”

International Symposium for Conservation of Paper and Textiles, Tainan, Taiwan — CCI presented “The Art of Cleaning Paper and Textiles: Collaboration between Conservators and Conservation Scientists” and “Textile Conservation at the Canadian Conservation Institute.”

MaSC Group Liquid Chromatography Workshop and Meeting at the National Gallery of Art, Washington, DC (MaSC is a user group for mass spectrometry and chromatography that currently operates under the umbrella of the ICOM-CC Scientific Research Working Group) — CCI presented “A Sampling of Current Projects Involving Gas Chromatography Mass Spectrometry at the Canadian Conservation Institute.”

Metals 2004: International Conference on Conservation of Metals, Canberra, Australia — CCI presented “Overview of Archaeological Iron: The Corrosion Problem, Key Factors Affecting Treatment, and Gaps in Current Knowledge.”

Wet Organic Archaeological Materials Conference, Copenhagen, Denmark — CCI exhibited the poster “The Relationship between Maximum Moisture Content and Wood Density for Waterlogged Archaeological Wood.”

### CCI also attended:

“Aqueous Systems for Cleaning Historic Textiles” (presented by the American Institute for Conservation of Historic and Artistic Works in partnership with the Winterthur Museum, Garden and Library), Winterthur, DE.

“BigStuff: Care of Large Technology Objects,” Canberra, Australia.

Boston Museum of Fine Arts Meeting on Radio Frequency Identification Tags, Boston, MA.

"Conservation of Digital Prints," Instituut Collectie Nederland, Amsterdam, The Netherlands.

Imaging Science and Technology Archiving Conference 2005, Washington, DC.

Furniture in France Study Tour — CCI staff accompanied 20 other French and American conservators, curators, and furniture makers on a 19-day tour through training programs, museum ateliers, private ateliers, castles, chateaux, and museums. The tour provided insight into French taste and its influence on Canadian and American design in furniture and decorative arts, as well as a chance to witness several French approaches to training craftsmen and conservators.

Photo Marketing Association International Annual Convention and Trade Show, Orlando, FL.

## Lectures

"Conservation of Ethnographic Wooden Objects" was presented at the University of Science and Technology in Oslo, Norway, to students in the International Course on Wood Conservation Technology.

## Workshops/Presentations

*Les matériaux utilisés pour l'exposition, la mise en réserve et le transport des collections* ("Materials used for Exhibition, Storage, and Transportation of Collections") was co-presented for the Office de Coopération et d'information muséographiques in Lyon, France.

*Linking Parabolas in International Exchange: Colloquium on Curatorship 2004* (a workshop on planning and carrying out international exhibitions) was co-presented with colleagues from the Musée de la civilisation in Québec City, the National Gallery of Canada, the Centre for Exhibitions Exchange, the Canadian Museums Association, and Lord Cultural Resources Planning & Management, and in collaboration with colleagues in Taiwan, in Tai-Chung, Taiwan, to about 200 Taiwanese curators.

*Mount-making for Museum Objects* was presented for the Nordjyllands Konserveringsvaerksted in Aalborg, Denmark, and also for the Conservation Programme students at the University of Goteborg, Goteborg, Sweden.

## External international publications

"Analysis of the Painted Œuvre of Jean-Paul Riopelle: From Oil to Mixed Media." In *Modern Art, New*

*Museums: Contributions to the Bilbao Congress, 13-17, September 2004*. London, UK: International Institute for Conservation of Historic and Artistic Works (IIC), 2004.

"Applications of X-ray Diffraction in Conservation Science and Archaeometry." pp. 18–29 in *Advances in X-ray Analysis Vol. 47: Proceedings of the 52nd Annual Conference on Applications of X-ray Analysis (Denver X-ray Conference)*. Newtown Square, PA: International Centre for Diffraction Data (ICDD), 2004.

"Cleaning of Soiled White Feathers using the Nd:YAG Laser and Traditional Methods." pp. 228–235 in *Lasers in the Conservation of Artworks: LACONA V Proceedings, Osnabrück, Germany, Sept. 15–18, 2003*. Berlin, Germany: Springer, 2005.

"Contemporary Painting Materials." pp. 39–49 in *Pre-Raphaelite Painting Techniques: 1848–56*. London, UK: Tate Publishing, 2004.

"Effective Preservation: From Reaction to Prediction." *Conservation: The Getty Conservation Institute Newsletter* Vol. 19, No. 1, 2004, pp. 4–9.

"Effects of Traditional Processing Methods of Linseed Oil on the Composition of its Triacylglycerols." *Journal of Separation Science* Vol. 27, No. 3, 2004, pp. 181–199.

"Overview of Archaeological Iron: The Corrosion Problem, Key Factors Affecting Treatment, and Gaps in Current Knowledge." pp. 294–306 in *Metal 04: Proceedings of the International Conference on Metals Conservation*. Canberra, Australia: National Museum of Australia, 2004.

"Studying the Effect of Adhesive Concentration, Reactivation Time, and Pressure on the Peel Strength of Heat and Solvent-reactivated Lascaux 360/498 HV Bonds to Silk." *ICOM Committee for Conservation, Textiles Working Group, Newsletter* Vol. 20, May 2004, pp. 2–5.

*The Preservation and Use of Historic Musical Instruments: Display Case and Concert Hall*. London, UK: Earthscan, 2004.

## International professional contributions

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

- Chair of the International Centre for the Study of the Preservation and Restoration of Cultural Property
- Chair of the Conservation Information Network
- co-editors of *Studies in Conservation* and *AATA Online: Methods of Examination, Analysis and Documentation*