Canadian Conservation Institute

Institut canadien de conservation

Annual Report

1999–2000

Canadian Heritage | Patrimoine canadien

Canada

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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 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
- 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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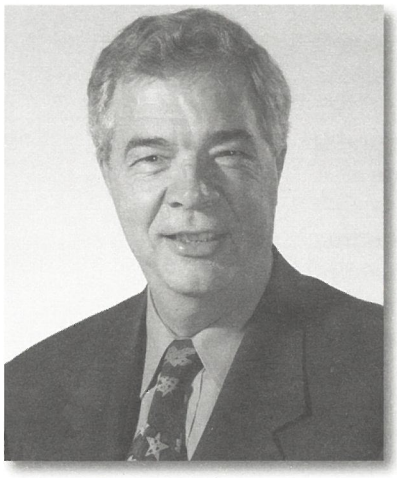


Now that the Canadian Conservation Institute (CCI) is several years into its transformation to a more client-focussed, service-centred organization, it is worthwhile to reflect on what has been achieved. The answer—a great deal! Not only has CCI maintained a high level of service to its clients in Canada, it has continued to be active in international projects with a range of institutions and organizations. The projects and activities outlined in this report illustrate the importance and complexity of the challenges facing the conservation community, and the determination and commitment of the Department of Canadian Heritage to ensure that Canada retains the capacity to manage and protect its material cultural heritage.

Fundamental to this effort is the need to understand the requirements and priorities of the Canadian heritage community—and to be able to respond effectively. The Institute has taken a number of steps in this direction, and will continue to strengthen its capacity. Client Services is one important link, as are structured feedback sources such as client satisfaction questionnaires and ongoing surveys of selected functions such as the publishing program. Equally important are the regular consultations with key groups such as the Canadian Association for Conservation of Cultural Property and the Canadian Council of Archives, and the more informal 'consultations' that come about through day-to-day contact with clients across the country.

As is the case with other knowledge-based organizations, the Internet is becoming an invaluable source of feedback. CCI's evolving Web site is not only playing an increasingly important role in providing information and advice to clients, but is also a hugely important tool for better understanding the needs of the heritage community. For example, CCI now 'publishes' its research agenda on the Web site, providing an opportunity for many more users to offer advice on how best to shape the research program. And, of course, the Net allows CCI to reach a much broader constituency of heritage interest. Making effective use of these information sources to set priorities is, of course, the next step.

In recent years the need for a thorough assessment of Canada's capacity to manage and protect its heritage collections adequately has become increasingly clear. CCI's environmental scanning information suggests that Canada's overall capacity (which was developed at considerable cost and effort over the past quarter century, to the stage where Canada was a world leader) has been deteriorating. CCI is currently developing a survey to provide a more thorough overall assessment of this situation, and at the same time is working on a collections-risk assessment tool that could be used as the basis for development of tailored collections management plans. It is hoped that this work will lead to the development of a national approach that will bring all levels of government together with the key stakeholders in heritage management to ensure that Canada's collective heritage is protected, and will be accessible to future generations.

Bill Peters
Director General and
Chief Executive Officer
Canadian Conservation Institute

Overview of CCI

Organization

The Chief Executive Officer (also known as the Director General) of the Canadian Conservation Institute (CCI) is formally accountable to the Deputy Minister of the Department of Canadian Heritage, through the Assistant Deputy Minister, Arts and Heritage. The Chief Executive Officer has the same level of delegated authority as the Assistant Deputy Minister with regard to a number of financial, administrative, and human resources responsibilities.

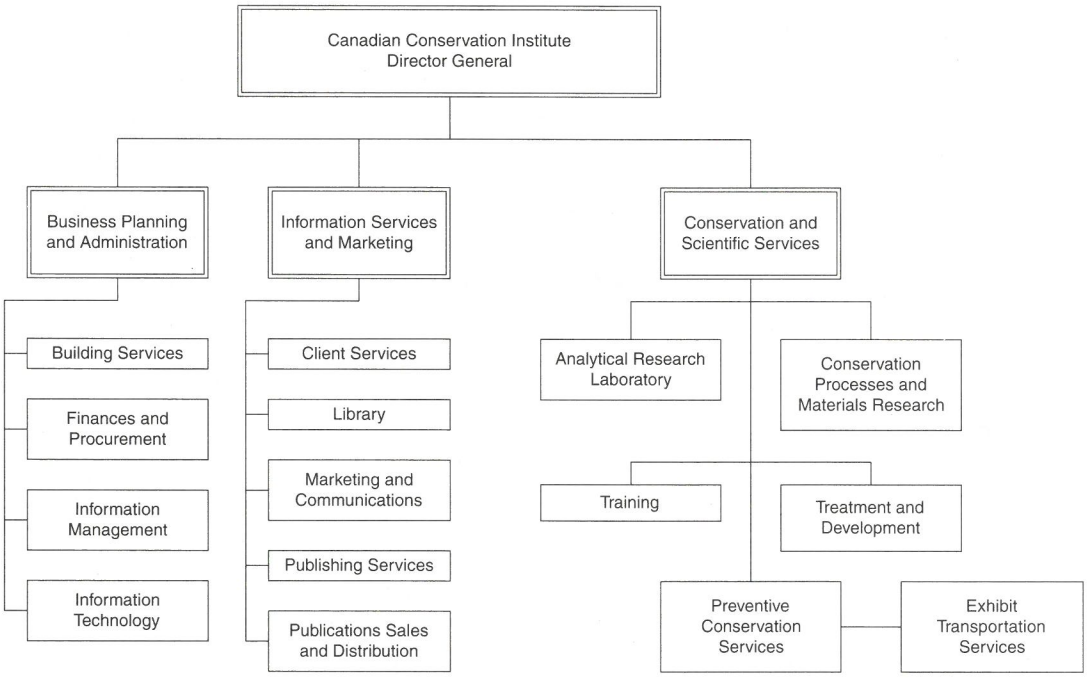
The key decision-makers in CCI are the members of the Management Committee (MC) comprising the Chief Executive Officer, the Directors, and the four Managers within the Conservation and Scientific Services Directorate. The MC's main focus is corporate decision-making and medium-term strategic planning while supporting the Chief Executive Officer in long-term strategic planning. The MC is supported by team members throughout the organization who are responsible for the day-to-day management and implementation of MC decisions.

Strategic Objectives

CCI is a Special Operating Agency of the Department of Canadian Heritage. CCI's strategic objectives are based on, and are consistent with, key Arts and Heritage Sector goals which are:

- to develop and maintain widespread appreciation and understanding of the importance of preserving Canadian heritage and fostering Canadian artistic creation and expression
- to support the creation, preservation of, and ensure access to Canada's heritage and artistic expression within Canada and internationally
- to facilitate and encourage investment in heritage and in the arts
- to support and encourage development of Canadian professionals

One of CCI's greatest strengths is the 28 years of knowledge and experience collected at the Institute. This 'one-stop-shopping' concept is unique in the area of scientific research and conservation treatment, and has contributed to the Institute's positive reputation.



For 1999–2000, CCI had four strategic objectives:

Improve the condition of and access to Canadian collections through the delivery of relevant and cost-effective conservation services.

CCI has established a standard of 95% or higher for client satisfaction, reflecting both an increased desire to be responsive to client needs and a commitment to high levels of service excellence. This objective is ongoing and is measured by client satisfaction questionnaires that are sent to clients upon project completion. These questionnaires cover analytical services, treatments, workshops, on-site consultations, and advisory services. Client satisfaction levels for 1999–2000 ranged between 95 and 100% for six areas including promptness of service, dealings with staff, and overall value.

CCI has established that at least 70% of total service hours should be directed to Canadian museums, art galleries, archives, libraries, university and college conservation and museology training programs, provincial/territorial conservation services, and non-profit heritage institutions and organizations with public collections. As in past years, the vast majority of service hours were directed to this group.

Increase the dissemination of information and knowledge generated by CCI to the heritage community and to Canadians.

Two issues of the *CCI Newsletter* were published. The lead article in Issue 23 (June 1999) was on the Haskell Opera House in Stanstead, Quebec, and that in Issue 24 (November 1999) was on the new Canadian Standard for Permanent Paper.

Technical Bulletins dealing with "Construction of a Constant-current Power Supply for Spot Electrolysis" (No. 20) and "Coatings for Storage and Display in Museums" (No. 21) were issued.

Production of brochures, pamphlets, and a catalogue of publications to promote the full range of products and services offered to clients continued. These materials were distributed through targeted print advertising, direct mail, and the CCI Web site, which now supports online orders from the publications catalogue. Sales increased ahead of estimates.

CCI staff delivered research papers at a variety of meetings, conferences, and symposia across Canada and around the world. Lectures were presented in Germany, England, France, Venezuela, and the United States on such topics as varnishes, lighting, storage and display materials, and emergency and disaster preparedness. Staff also delivered 16 workshops on a variety of topics, and arrangements were finalized for *Symposium 2000 - The Conservation of Heritage Interiors*, to be held in Ottawa in May 2000.

Maintain and attract a knowledgeable and professional work force within a safe and stimulating environment.

CCI has been developing a comprehensive human resources framework to ensure that the skills and expertise necessary to provide the best possible service to clients are available now and in the future. This framework reflects the role and services of the Institute and the current deployment of human resources.

Improve the management of human, material, financial (including earned revenue), and information resources.

The revenue histories of CCI and Exhibit Transportation Services

CCI staff delivered workshops on a variety of topics.

have been maintained during the previous year, reflecting the successful transition to a revenue-generation model.

CCI has been improving methods of project tracking and delivery through the continued development and implementation of simple tools to measure the cost of activities and the distribution of services. CCI has also been improving service delivery in both official languages and implementing enhanced administrative processes (e.g. *PROTEUS*, Client Services, Internet ordering, etc.), using the client satisfaction questionnaires as a measure of success.

CCI has been undertaking two annual surveys of staff. The Composite Morale Index measures satisfaction in various areas related to the workplace, including communication, roles and responsibility, training, recognition, health and safety, management, etc. The Composite Values Index measures staff satisfaction with how values are adhered to in the workplace, and includes issues such as respect, honesty, integrity, and accountability. CCI management has identified seven areas for improvement in each index.

Consultations with Client Groups

One of the challenges for any organization involved in research is ensuring its work is relevant and useful to its client community. Although CCI has been receiving ongoing comments and feedback from clients, a more formal means of soliciting feedback and suggestions was desired.

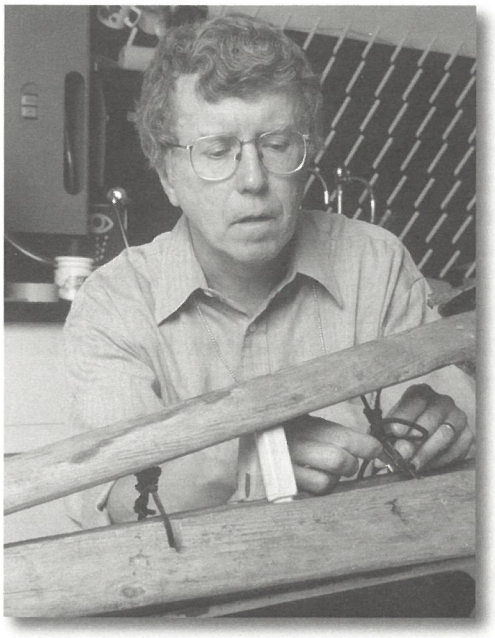
For the past several years, CCI has been meeting with the Preservation Committee of the Canadian Council of Archives to discuss areas of concern in the field of preservation and conservation within the archival community, as well as plans for future research and progress on existing research projects. These meetings have been invaluable in ensuring that CCI's research is targeted and relevant to the archival community. The major topics discussed at the meeting in February 2000 included:

- an update on the Canadian General Standards Board Standard on Permanent Paper
- an update on research into the evaluation of various artificial aging processes used to predict the long-term stability of paper and paper-based materials
- a discussion of the progress of a publication entitled *Guidelines for Humidity and Temperature for Canadian Archives* which is to be published by the Canadian Council of Archives and CCI
- an update on adhesives research at CCI
- an update on research into dealing with mouldy paper-based material
- a discussion of current and proposed work in the area of digital and magnetic media

CCI attempted to convene a similar discussion group within the museum community, but the lack of an umbrella organization to fund such an activity and the wide range of issues and problems that exist with different collections made this difficult. In an attempt to improve the exchange of information with conservators, CCI published a list of research projects and distributed it to delegates at the June 1999 meeting of the Canadian Association for Conservation of Cultural Property in Winnipeg. Proposals for future research at CCI were also solicited from delegates, who were asked to rank their suggestions in terms of priority. The key priority that was identified was for CCI to adopt an advocacy role in articulating the value and relevance of conservation. There were also a number of suggestions concerning the treatment of mouldy materials and preservation issues related to machine-readable information carriers. This input will help the Institute make decisions about new projects. CCI has started to address most of the top 10 issues that were raised and will report on progress at the Canadian Association for Conservation of Cultural Property's next conference in May 2000.

Treatments

Drawing on a wide and solid base of experience, CCI staff continued to deliver expanded treatment services in 1999–2000.



An innovative approach was required to stabilize the wooden frame of a kayak once owned by Dr. Frederick Banting.

Treatment began on a Mi'kmaq prayer book. The manuscript arrived at CCI in an extremely deteriorated and vulnerable state. Assistance was requested from a Mi'kmaq scholar, who visited CCI to assist in determining the appropriate sequence of loose pages in the volume. After outlining a range of treatment options to the Band Council, it was decided to proceed with an extensive treatment. Work on the volume will be completed in the spring of 2000.

A travelling exhibition (*Audubon's Wilderness Palette*) turned to CCI for advice on dealing with unanticipated behaviour of material in the show. Working with the conservators who had mounted the valuable prints and with the institutions hosting the exhibition, a monitoring program was established. As well, an examination of the mounting materials and techniques used assisted the institutions involved in making informed choices about any changes to the mountings.

Working with a private-sector contractor, a detailed report was produced for the Library of Parliament. This document ("Criteria and Guidelines for Moving the Library of Parliament Collection") plus staff training sessions and service-on-call helped guide the Library through a complex move. Additional factors that had to be considered in the move were the health and safety implications for those who would handle material contaminated by mould.

The mould focus was sharpened when a CCI team responded to a request from the Bermuda Archives for handling and cleaning guidelines specific to their situation. Although the climate of Canada is not as conducive to creating the conditions for massive mould outbreaks as are tropical climates, the information gathered so far (as well as the areas identified as needing more research) convinced CCI to begin work on a comprehensive publication about mould.

CCI was asked to assess the condition of 124 models of canoes at the Mariners' Museum in Newport News, Virginia. The collection, which once resided in Canada, needed a comprehensive assessment by recognized specialists to support a grant application for treatment of the collection.

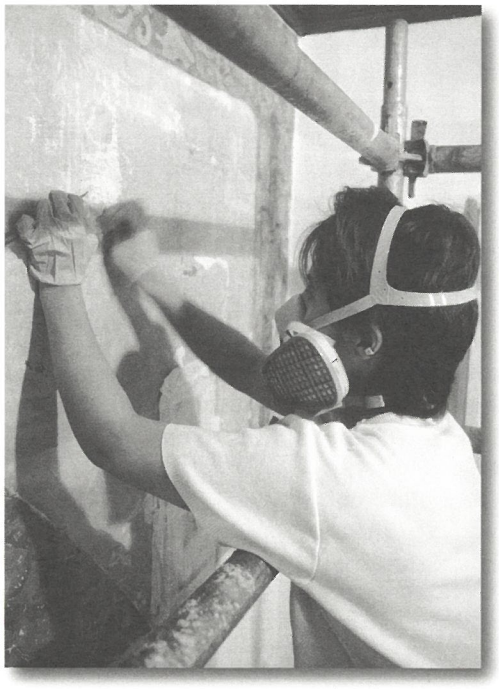
A novel treatment for a cedar bark mat was developed for the Museum for Textiles in Toronto, Ontario. This treatment involved the use of digital imaging techniques combined with laser printing on stable paper.

Work on a kayak that belonged to Dr. Frederick Banting required innovative approaches to the stabilization of the wooden frame as well as the integration of new canvas to support the tattered covering applied by Banting over the original damaged skin.

Treatment began on a flag from Kanehsatake. The three bands of colour on this flag are thought to represent the triangle of Mohawk Reserves (Kanehsatake, Kahnawake, and Akwesasne). Although a significant portion of the original material has been lost, the remaining section makes a powerful statement.

Treatment of the First Guidon, Royal Canadian Dragoons, was completed, and the conservators were invited to Canadian Forces Base Petawawa for the unveiling ceremony, which marked the 99th anniversary of the Battle of Leliefontein. The Royal Canadian Dragoons have also asked CCI to undertake the conservation treatment of the King's Banner; because this is considered an 'exceptional' treatment, CCI will partner with a private-sector conservator to work on this important symbol.

Treatment began on two portraits by Louis Dulongpré (*Portrait d'Eusèbe Cartier* and *Portrait d'Edouard Cartier*). Treatment was completed on paintings from the Ryerson Polytechnic University Archives (*Portrait of Egerton Ryerson*), and the Vancouver Art Gallery (*The Portrait of Mrs. Abdy*), and on a three-panel painted screen by Lilias Farley from the Yukon Art Centre. Treatment continued on other paintings from the Winnipeg Art Gallery (*Hercules & Omphale* and *Holy Family and Saint*), the Vancouver Art Gallery (*The Woodcutter's Little Daughter*), and the Musée du Québec (*L'incrédulité de saint Thomas*).



CCI participated in the removal of overpaint from the allegorical figures in the Chamber of the Legislative Assembly of Ontario.

Treatment of a large contemporary work (*Me and Bride*) by Christopher Pratt was particularly challenging. Previous analysis of a sample from an area of apparent damage on this painting had provided inconclusive results. The painting was therefore sent to CCI for examination and analysis in preparation for treatment prior to an upcoming exhibition. CCI collaborated with the artist, the owner of the painting, and private-sector conservators on this project. Working with the benefit of analysis of carefully selected paint samples from this work, and examination and information on other paintings by the artist, the nature of the damage was determined. During a visit to CCI, Mr. Pratt shared details of his techniques, materials, and experience and provided the critical information required to reach a conclusion. With the artist's assistance, agreement was reached on how to approach the treatment.

A team of CCI and private-sector conservators carried out the cleaning and consolidation of 10 murals and a large map of Canada in the Senate Banking and Commerce Room in the Centre Block on Parliament Hill.

CCI was part of a team of public- and private-sector conservators who removed overpaint from the allegorical figures in the Chamber of the Legislative Assembly of Ontario in Toronto. A previous attempt to remove the white paint that had hidden these works by noted Canadian artist Gustav Hahn had been unsuccessful, and made it difficult to determine the feasibility of an accurate restoration of the work. However, as the treatment progressed it became clear that there was significant detail under the overpaint, and that a large-scale removal was possible. If this project goes ahead, it will require an even larger team. This project was an opportunity to raise public awareness for preservation activities, and a number of media interviews took place. The project also required the development of special equipment to capture solvent fumes (i.e. pick-ups that ducted fumes through large drums of activated charcoal which absorbed the vapours before the air was drawn through exhaust fans). This new technology has been shared with other conservators and CCI will continue to refine and develop the concept.

Antique doors were treated for the Museum of Nature and the Bank of Montreal in Ottawa. The treatment of entrance doors made of wood and decorative metal is a new focus for built heritage work. These doors are often a carefully designed feature of a building. However, their constant use and the fact that they are usually viewed as utilitarian fittings (and as such often undergo uninformed and expedient repairs or replacement) puts these unique building features at risk.

CCI was also involved in a partnership project to conserve the formal teak and ebony floor in the Speaker of the Senate's Suite in the Centre Block on Parliament Hill. A similar floor in the building had been lost due, in large measure, to a lack of understanding of the floor's construction and value. The floor that seemed to

Treatment of this Louis XV dressing screen will be a collaborative effort.

have been thick planks was, in reality, a refined composite system, decked with relatively thin teak veneers. The rehabilitation of the surface required the design and production of special equipment to control the dust and fumes generated during the treatment.

Treatment began on a Louis XV dressing screen from the Ontario Heritage Foundation's Fulford Place in Brockville, Ontario. The object drew together conservators in furniture, fine art, and textiles in both the public and private sectors.

Treatment was completed on a cider press whose main beam stretched more than 8.5 m (28 ft.). The piece was a focal point of the first Mennonite community in Canada and is housed at the Jordan Museum of the Twenty in Jordan, Ontario, in the Niagara region. CCI's pest management knowledge proved invaluable and led to the development of a support system for the degraded structure and a low toxicity solution that was used to stop the biodegradation that was attacking the artifact.

Treatment began on two CCM motor bikes. One belongs to St. Mary's Museum in St. Mary's, Ontario, and the other to Burnaby Village Museum in Burnaby, British Columbia. These artifacts offer a unique opportunity to explore a little-known product of Canada's manufacturing history. Extensive research was carried out and innovative treatment solutions were developed to meet the challenges presented by the condition of the machines. Some of the possible spin-offs of this project are digitally reproduced decals, new approaches to treating industrially japanned finishes, and the use of thin metal foils to replace lost nickel plating.

Scientific and Technical Studies

CCI staff undertook scientific and technical studies of artifacts and archaeological sites for both public institutions and private individuals, encountering a wide range of materials and problems of varying complexity. Many of the artifacts examined (e.g. a possible surrender flag from the Battle of Paardeberg during the South African War, and moosehair-embroidered birch bark containers) were unique and presented difficult challenges.

A common type of request concerned the nature of accretions, pollutants, and additions. Examples of such requests include the analysis of an oily deposit on microfilm which revealed that it consisted of saturated aliphatic hydrocarbons (i.e. mineral or lubricating oil), the analysis of a Korean drum which revealed that past treatments were synthetic polymer adhesives, and the analysis of dust from an archival storage system to determine its source.

Analysis of materials from the caricature collection of the National Archives of Canada provided new information about the range of graphic arts products used by Canadian caricaturists and cartoonists. Colorants used for a John Senex Terrestrial Globe (London, England, ca. 1745) from the National Archives of Canada were analysed.

A technical study of a polychrome sculpture of a *Guan Yin* (the Buddhist deity of Compassion) and other sculptures from the Royal Ontario Museum revealed a complex stratigraphy and a wide range of mineral pigments. As well, four Ming Dynasty (1491) cast iron Buddhas (the *Judges of Hell*) were studied for the Royal Ontario Museum.

Conservators at the Centre de conservation du Québec asked CCI to conduct an analysis of water-affected glass artifacts from the underwater wreck of Sir William Phipps' boat. A variable-pressure scanning electron microscope was used and it revealed a complex structure of flaking glass due to weathering.

Digital imaging techniques were used to reproduce a turn-of-the-century wallpaper from a photograph.

A number of studies were done for the National Gallery of Canada, among them analytical and infrared reflectrographic studies of *Vulcan and Aeolus* by Piero di Cosimo and *Portrait of a Nobleman* by Barthel Beham. An analytical study was also completed of Rembrandt's *Heroine from the Old Testament (Esther or Bathsheba).* An interesting study of a painting of *The Last Supper* executed on a copper engraving of *Details of the Corinthian and Composite Orders* was undertaken for the Canadian Centre for Architecture.

Three X-ray spectrometric surveys for the presence of arsenical biocides in artifacts and natural history specimens were undertaken at the Royal Ontario Museum, the Musée du Séminaire de Sherbrooke, and the Canadian Museum of Civilization.

Further studies of elements of the Library of Parliament were done for the architectural consortium working on the restoration of the Library. In another technical study, stains on the Tyndall stone flooring of the Centre Block on Parliament Hill were examined in order to make recommendations on the best means of maintaining the stone.

A program of analysis of artifacts from Arctic archaeological sites with the Archaeological Survey of Canada (Canadian Museum of Civilization) continued. The goals were to differentiate native copper from European alloys and meteoric iron from smelted iron. Samples were analysed by X-ray spectrometry at CCI and instrumental neutron activation analysis at the Royal Military College in Kingston, Ontario.

CCI worked with conservators from the National Archives of Canada to initiate a program using colour measurement to monitor the fading of ink on archival documents such as the *Proclamation of the National Anthem*, the *Proclamation for the National Flag of Canada*, and the *Proclamation of the Constitution of Canada*. This monitoring program will provide conservators and curators with information that can be used by exhibit managers to help define reasonable exhibition times for light-sensitive documents.

CCI undertook an analytical survey of artifacts in the Musée de la Civilisation in Québec City using on-site non-destructive infrared reflection spectroscopy; 143 artifacts from several different collections were analysed.

Digital imaging techniques were used to help the staff at Whitehern in Hamilton, Ontario, to reproduce a turn-of-the-century wallpaper from a photograph taken in the late 1960s or early 1970s. A life-size image of the wallpaper was extracted from a 35-mm slide using photomacrography and digital image processing.

The Heritage Branch of Yukon Tourism in Whitehorse and the Champagne and Aishihik First Nation requested CCI's help to identify the wood used in roughly 100 artifacts collected during the summer of 1999 in the melting ice fields of high alpine regions in southern Yukon. The collection of artifacts (some dating back 6800 years) included a bow, atlatl darts, and arrows, some of which were well preserved, with stone points and remnants of feathers still attached to the shafts with sinew.

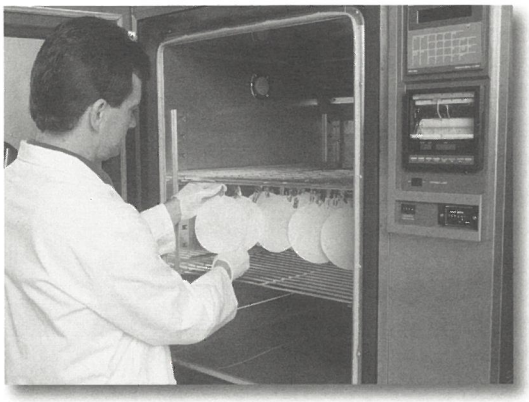
The 550-year-old wooden implements of the First Nation iceman, Kwaday

Dän Sinchì ("Long Ago Person Found"), discovered in northern British Columbia, were identified. The strongest of the woods (maple) was used to construct the bow. Birch was used to make most of the arrow shafts because of its light weight and lack of warping during drying. As glacial fields continue to melt, many more organic artifacts are being recovered.

A number of advances were made in analytical and digital imaging instrumentation. The purchase of a gas chromatograph/mass spectrometer will expand CCI's capability to analyse natural organic products and to undertake other research. The X-ray detector on the scanning electron microscope was replaced with a new light-element detector that can detect X-rays from chemical elements as low as boron (atomic number 5) in the periodic table. CCI also acquired a Multi-Spectral Imaging System and will explore new applications for laboratory and field use.

Research

Scientific research is essential to the development of new conservation knowledge, and CCI maintains an active research program related to the needs of the Canadian heritage community. A new format for the review and introduction of research projects has been established. Under this system, all research will be reviewed annually. Regular consultations will continue to be held with groups and institutions such as the Canadian Council of Archives and the Canadian Association for Conservation of Cultural Property to determine their needs. The full research program is available on the CCI Web site.



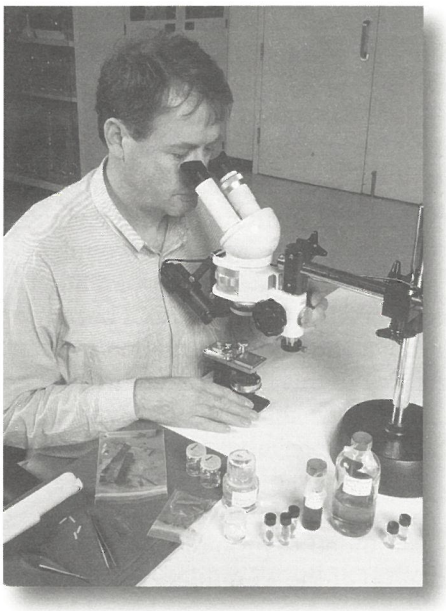
As part of a collaborative project on the accelerated aging of paper, samples were artificially aged in a controlled temperature and humidity chamber.

As part of a project funded by the American Society for Testing and Materials, work was completed on the accelerated aging of paper. These results will help in the development of new standards for permanent paper based on performance rather than on composition. CCI's role in this collaborative effort with the United States and Finland was to examine the thermal-accelerated aging of paper. One interesting aspect was the participation of the CCI library, which was selected as a long-term test site for natural aging of the papers used in the study.

The results of another research project have led to the development of a procedure for the disaster recovery of modern information carriers. This was a priority established by the Canadian Council of Archives and supported by a number of other agencies. The initial work was to establish procedures for recovery of water-damaged compact discs.

Analytical work into the materials and techniques used by artist Jean Dallaire was completed. The results will be used to establish a database which will assist in devising treatments as well as in selecting appropriate display and storage conditions. It will also provide reference analyses for paintings for which attribution is uncertain. Twenty-five paintings were selected and, from them, cross sections and samples of canvas, ground, paint, and varnish were collected. Information regarding the execution of the artworks was documented, including the support used (hardboard, unprepared canvas, commercially prepared canvas, canvas prepared by the artist), the presence and appearance of the signatures, etc.

Analysis of the materials and techniques of Tom Thomson was completed. A particularly interesting discovery was the use by Thomson of a pigment known as Freeman's white. This is the first detailed



To develop improved treatment methods for archaeological basketry, samples were first stained and analysed microscopically.

scientific study of Thomson's materials and the findings will be applied to problems of conservation and authenticity. As well, work continues on the study of the materials and techniques of David Milne.

A collaborative research project was launched with the curatorial and conservation staff of the Art Gallery of Ontario and other partners to study the materials of Cornelius Krieghoff. The study was initiated in conjunction with the exhibition *Krieghoff: Images of Canada* which will travel to five Canadian cities. Samples were taken from about 50 paintings representing different stages of the artist's career.

Research was done to test recently developed techniques that study the impact of conservation procedures on silk, which is delicate and sensitive. New analytical separation techniques were used to study the effects of heat, humidity, and lower-intensity light (ultraviolet-free fluorescent light) on silk. A relationship was established between light intensity and silk damage, and acid and alkali conservation treatments were found to influence the light-stability of silk. The results from this study will establish new and improved techniques for analysing the deterioration of silk and, in turn, will lead to better procedures for the treatment, handling, and display of silk textiles.

Research was carried out to develop improved treatment methods for archaeological basketry, which is an important tool in the identification of different cultures on the Northwest Coast of Canada. The aim was to develop approaches that would not affect the appearance of the baskets and that would leave them flexible enough to be handled. By modifying conventional freeze-drying techniques, this goal was achieved.

Advisory/Consultative Services

Advice from CCI's conservators and scientists is sought by professionals around the world as well as by staff of Canadian museums, galleries, archives, libraries, and other cultural institutions. Inquiries also come from the general public, artists, suppliers to the conservation and museum communities, and government agencies, to name but a few. The inquiries arrive by telephone, fax, in person, and, increasingly, the CCI Web site.

CCI received thousands of inquiries, and provided advice on a wide range of subjects, including:

- time capsule construction and contents
- relative humidity and temperature guidelines for cultural institutions
- recovery and preservation of an historic scale model aircraft from a lake bottom
- analysis of a 17th-century Dutch painting
- display of a 5.4-tonne (6-ton) stone sculpture
- mould removal from an oil painting on canvas
- design standards for a new museum
- preservation of videotapes and record albums
- careers in conservation and conservation science
- use of hay and straw in an art museum that was installing a piece incorporating a live cow

The scope and variety of questions is always a challenge, sometimes sparking research into unforeseen areas. An interesting development during the 1999–2000 fiscal year was the growing number of inquiries received through the CCI Web site. The convenient Feedback/Inquiry Form is now used for about one-third of all inquiries, compared with less than 10% in the previous year.

In response to growing interest from First Nations communities, CCI worked with

the Department of Canadian Heritage Western Region to present a 3-day pilot workshop (*Facility Planning and Design*) in Vancouver, British Columbia. Representatives from approximately 20 First Nations groups attended the workshop which focussed on drawing up terms of reference for building a facility. The session also increased the participants' awareness of why and how collections deteriorate.

CCI continued to refine its museum survey protocol and database which is being used in the assessments of Canadian Forces museums for the Department of National Defence. Over the past few years, two private-sector contractors have used this tool to carry out museum surveys in Quebec and British Columbia. The contractors received a week of training in Ottawa on the protocol and database before doing the surveys in the field. The database guides the surveyor in making observations and recommendations, and then generates a report based on that material.

CCI staff provided advice on facility management to many institutions.

As part of the technical review services that CCI provides to the Movable Cultural Property Program as well as the Museums Assistance Program of the Department of Canadian Heritage, CCI staff visited 16 institutions to advise on their facilities.

In response to growing demand from conservators and institutions who feel the state of collections across the country needs attention and that the conservation profession needs to advance, CCI began developing a national preservation strategy. Key to this initiative are the development of a survey tool to evaluate collections, and consultations with a broad cross section of interested parties.

Efforts continued to promote the conservation of the 45-million-year-old Fossil Forest on Axel Heiberg Island in Canada's Arctic. CCI is concerned that extensive field work may cause irreversible damage to this unique site, and has called for a moratorium on all field work until a full site study has been conducted. CCI's involvement with the site goes back more than a decade when a new technique for preserving the wood samples and other organic samples was developed. Because of concerns about changes caused by man and nature, CCI produced a guide to help educate visitors to the site, and has compiled an extensive and detailed map of the Fossil Forest which shows the major features and also indicates the location of recent disturbances.

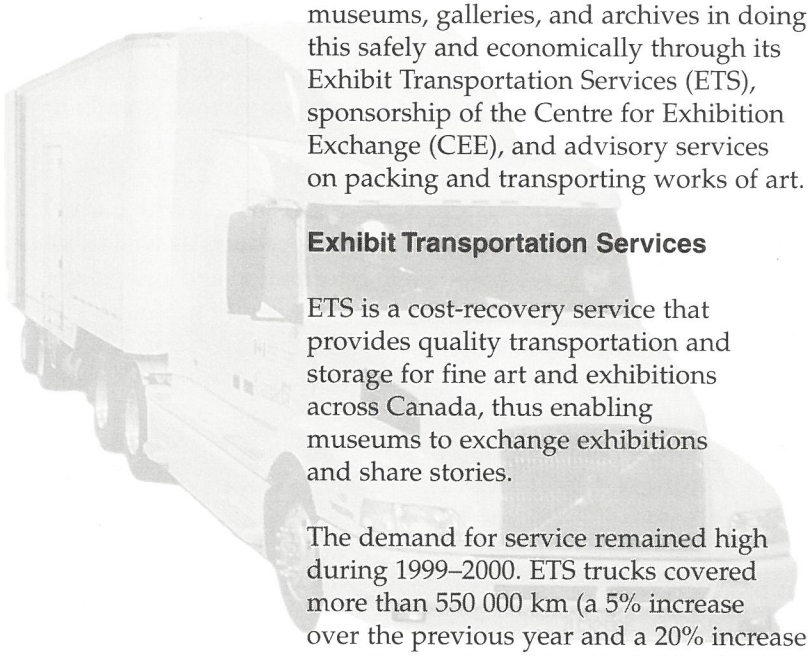
Site Visits

During the 1999–2000 fiscal year, CCI staff undertook a number of site visits:

- Musée de la Civilisation in Quebec City, Quebec, to discuss a storage-planning project
- Mississippi Valley Textile Museum in Almonte, Ontario, to return two linen mummy shrouds that were treated at CCI, discuss the treatment, and explain the mounting system made to display the two shrouds
- History and Heritage Directorate, Department of National Defence in Ottawa, Ontario, for on-site training
- Thunder Bay Art Gallery in Thunder Bay, Ontario, to monitor the Facilities Upgrading Project
- RCMP Rockcliffe Musical Ride barracks in Ottawa, Ontario, to develop a conceptual plan for a heritage interpretation centre on the role of horses in the history of the RCMP
- Head-Smashed-In Buffalo Jump, Secwepemc Museum and Heritage Park, U'mista Cultural Centre, Kwagiulth Museum and Cultural Centre, Campbell River Museum,

and Xa'ytem Longhouse Interpretive Centre/Hatzic Rock to discuss facility planning and design at these Alberta and British Columbia locations
- Kamloops Art Gallery, Art Gallery of the Southern Okanagan, and the Kelowna Art Gallery (all in British Columbia) to conduct facility reviews under the Movable Cultural Property Review Board
- Woodland Cultural Centre in Brantford, Royal Ontario Museum in Toronto, Trent University in Trent, and Sir Sandford Fleming College in Peterborough (all in Ontario) to discuss First Nations cultural development issues
- Department of Canadian Heritage, Hull, Quebec, to present a "Travelling Road Show"
- Haisla Cultural Centre in Mission, British Columbia, to advise on planning terms of reference and consultant proposals
- Kitikmeot Cultural Centre in Cambridge Bay, Nunavut, to advise on the functional layout of the museum areas
- Library of Parliament in Ottawa, Ontario, to examine a dress uniform
- Archives de la Compagnie de Jésus in St-Jérôme, Quebec, to examine sketches and gouache paintings by 19th-century Jesuit explorer Father Nicholas Point
- St. John's, Newfoundland, to consult on a proposed new building to house the Newfoundland Museum, the Art Gallery of Newfoundland and Labrador, and the Provincial Archives of Newfoundland and Labrador

Transportation



For Canadians to share their stories, ideas, and dreams, it is necessary to move exhibitions across the country. CCI assists museums, galleries, and archives in doing this safely and economically through its Exhibit Transportation Services (ETS), sponsorship of the Centre for Exhibition Exchange (CEE), and advisory services on packing and transporting works of art.

Exhibit Transportation Services

ETS is a cost-recovery service that provides quality transportation and storage for fine art and exhibitions across Canada, thus enabling museums to exchange exhibitions and share stories.

The demand for service remained high during 1999–2000. ETS trucks covered more than 550 000 km (a 5% increase over the previous year and a 20% increase over the last 2 years), with 138 institutions using ETS services during the year. Also, a museum collection that had been stored in the ETS secure, climate-controlled vault for the past 2 years was returned to the owner institution.

Centre for Exhibition Exchange

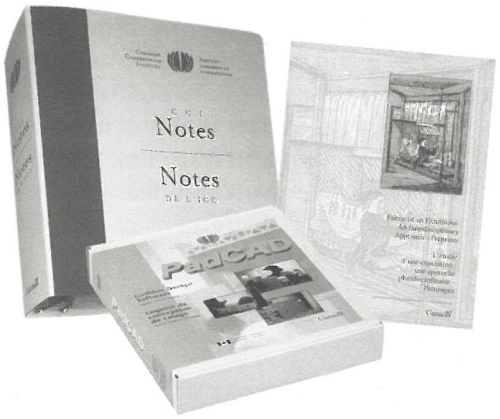
CEE was launched in 1998 to help stimulate and advance the development and movement of travelling exhibits across Canada and abroad. It brings together borrowers and lenders and helps the exchange of travelling exhibits by sharing information and expertise. CEE is a collaborative initiative with three major partners: the Canadian Museums Association (including the Exhibition Exchange Special Interest Group), ETS, and the Canadian Heritage Information Network.

CCI continued to be the primary financial backer of CEE, providing more than 85% of its funds. This was the first full year where CEE had its centralized database of planned and actual exhibitions available on the Internet; by the end of the fiscal year there were 138 exhibitions from 46 different institutions listed on the site.

CEE has been looking into the feasibility of taking on a more active co-ordinating role in assisting museums,

galleries, and archives circulate their exhibitions. A survey of cultural institutions across Canada was carried out and it indicated that although there was general interest, the type of service required and the ability to pay varied widely. CEE will investigate further during the coming year.

Information Dissemination



CCI produces a variety of information products.

In an effort to enhance the dissemination of information, CCI undertook a major overhaul of its Web site. The re-designed site was launched in July 1999 and offers a number of new features:

- an online Bookstore presents an electronic catalogue of CCI publications and special products, allowing users to search the catalogue for specific topics and place their orders directly
- a Conservation Information section provides access to information generated by CCI staff and research collaborators; users can carry out searches by author or key words of the database and can also do a free-text search within the body of an individual document
- a Services section describes in detail what the Institute has to offer to the conservation and heritage communities and includes an expanded list of learning opportunities that range from internships to on-site workshops

Several new information products were released this year including PadCAD Version 3 Cushion Design Software for Windows, CCI's first major foray into the computer software business. This easy-to-use software simplifies protective packaging and cushioning designs for fragile objects and estimates potential hazards during shipping and handling. It offers information on nine different types of packing cases and 20 different cushioning materials. The program allows the user to specify the dimensions and fragility of the artifact, and select the type of packing case, cushioning material, and cushioning design; it then calculates the dimensions and weight of the finished packing case. It also predicts the performance of the packing material if dropped from various heights. This software can be downloaded from the CCI Web site for a free 30-day evaluation period.

Sales of publications and products increased 48% over the previous year, which was significantly above the target for the year. Increased promotion of CCI publications and the availability of the online Bookstore contributed greatly to the increased sales.

To assess client satisfaction with current publications and products as well as identify gaps in information and prioritize areas for improvement of products and delivery, CCI commissioned the Corporate Review Branch (a unit of the Department of Canadian Heritage) to undertake a comprehensive survey related to CCI publications. The questionnaire was distributed to approximately 2000 users of CCI publications worldwide in July 1999; 586 questionnaires were completed and returned (a large response for this kind of survey). In general, the level of satisfaction with CCI publications was extremely high. Results of the survey will be used to develop a long-term plan for future directions in publication and product development.

The CCI library focussed on increasing access to its collection of more than 10 000 books and 400 journals. In particular, the library's Online Catalogue was expanded to include serials and journals. A new policy on Inter-Library Loans was established to include Canadian organizations. Work also began on installing the library catalogue on the CCI Web site for direct access by clients both in Canada and abroad.

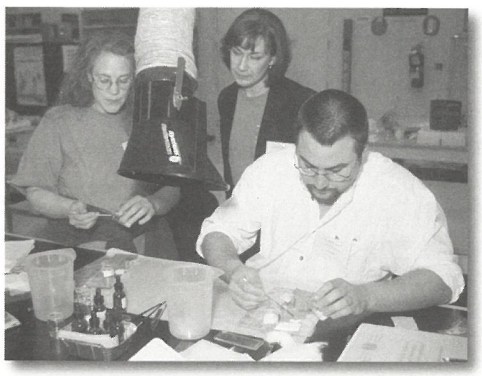
Training

Outreach Programming

CCI's educational activities include workshops that are given across the country in collaboration with provincial art gallery, archival, and museum associations as well as post-secondary institutions and other mandated clients.

Increased emphasis on training resulted in more than twice as many workshops being delivered in 1999–2000 as in the previous year. Sixteen workshops were held, addressing the following areas:

- conservation considerations for sculptors and carvers
- storage planning
- emergency and disaster preparedness
- care of textiles
- care of historical furniture collections
- industrial collections
- making protective folders and boxes
- integrated pest management
- salvage of water-damaged collections
- consolidation of porous materials
- preservation of optical disks and magnetic media records



As part of its outreach programming, CCI offers intensive courses for conservation professionals.

In addition to these workshops, lectures were given within conservation programs on adhesives research and silk degradation.

CCI's outreach programming also provides an opportunity to learn about the emerging needs and concerns of the heritage community. For example, the pilot workshop *Preservation of Optical Disks and Magnetic Media Records* proved instrumental in identifying key concerns of the varying communities which, in turn, gave focus for further research related to modern information carriers and the preservation of digital collections. Likewise, after *Consolidation of Porous Materials: Physics and Optics* was piloted, the feedback received helped CCI refine this workshop to meet participant needs even more effectively. This workshop will be offered again as part of the Advanced Professional Development program.

As part of a revision of the outreach programming, CCI has begun developing five new module-based programs. These aim to strike a balance between theory and practice, and they cover Archaeology, Built Heritage, Museum Planning, Preservation of Collections, and Preventive Conservation. The module-based format will allow clients maximum flexibility to design their own workshops. Each program will have several different modules that are made up of recommended core units and occasionally specialized elective units.

Advanced Professional Development

CCI offers 1-week intensive courses in Ottawa for professionals working at an advanced level in the international heritage community. One of these courses (*Archaeological Conservation: Specialized Techniques and Research for Wet Objects*) was offered in April and October of 1999; some 35 delegates attended from Norway, Sweden, Switzerland, Britain, Ireland, France, Iceland, the United States, and Canada. Another one (*Adhesives for Textile and Leather Conservation: Research and Application*) was given twice in May of 1999. This course attracted 58 delegates from Canada, France, Britain, Switzerland,

Italy, Norway, Sweden, Israel, Mexico, Brazil, Estonia, and the Republic of China. Due to continued demand, it will be offered again in September 2000.

Both of these courses received numerous positive reviews in both Canadian and international professional journals.

Internships

CCI hosted 29 interns during the 1999–2000 fiscal year, of which 8 were from countries outside Canada. Areas of study were diverse, including:

- archaeological art and artifact conservation
- conservation science
- finance
- information technology
- management
- training and development
- marketing

International Presence

CCI maintained a high international profile through projects, publications, training, services to foreign clients, and contributions to international professional organizations.

The Institute has become well known both at home and abroad for its professional publications. In the 1999–2000 fiscal year, 43% of publications sales were to the United States, 17% to other foreign countries (mostly the United Kingdom, Australia, Belgium, and Italy), and 40% within Canada.

CCI's Advanced Professional Development courses have attracted many conservation specialists from outside Canada, and there is a developing market for CCI to present courses abroad, particularly in the area of preventive conservation.

As a consequence of its international reputation, CCI receives regular requests to participate in collaborative projects with other institutions. This benefits CCI by providing access to expertise and equipment unavailable in Canada, as well as access to interesting and unusual artifacts. One CCI staff member has been working with MolArt in the Netherlands on a project to reproduce the technologies of 18th- and 19th-century artists and to study the behaviour of the materials used (this project involves the Fundamenteel Onderzoek der Materie Instituut voor Atoom - en Molecuulfysica). In another project, CCI was invited to participate in a joint United States – Canada study on the use of laser ablation for surface cleaning funded by the National Center for Preservation Training and Technology in Nachitoches, Louisiana.

Many CCI staff were active in prestigious international organizations during 1999–2000, with some holding elected positions:

- Chair of the International Council of Museums - Committee for Conservation (ICOM-CC)
- Canadian delegate to the general assembly of the International Centre for the Study of the Preservation and the Restoration of Cultural Property
- Coordinator of the ICOM-CC working group on Scientific Methods of Examination of Works of Art
- an Editor of *Studies in Conservation* (the journal of the International Institute for Conservation of Historic and Artistic Works)

Financial Statement 1999–2000

Appropriation		4,753,498
One-year Appropriation for Capital Equipment Replacement from Treasury Board and Sector		500,000
Vote-netted Revenue[1]		1,950,000
Carry-forward from 1998–1999		64,274
Earned Revenues:		
Publications and Special Products	95,050	
Conservation and Scientific Services	553,158	
Library Services	2,924	
Exhibit Transportation Services[2]	720,058	1,371,190
Total Operating Budget		**8,638,962**
Expenditures:		
Salaries		4,178,059
Postage and Freight	30,630	
Communications	74,203	
Information and Printing	86,367	
Professional and Special Services[3]	869,213	
Travel[4]	185,569	
Rentals	21,319	
Repair and Maintenance	139,865	
Utilities, Materials, and Supplies	430,056	
Acquisition of Machinery and Equipment	485,116	
Reimbursement of Vote-netted Revenue	1,950,000	4,272,338
Canada's Membership Fee to ICCROM		59,494
Total Expenditures		**8,509,891**
Balance		**129,071**[5]

Note: This is not an audited financial statement.

1 Vote-netted revenue is a financial mechanism used by the Government of Canada to provide a draw on projected earned revenue.

2 The Financial Statement includes the Exhibit Transportation Services.

3 Professional and Special Services include contractual work, consulting and advisory contracts.

4 Travel includes museum and site visits, conference attendance, professional association business, and travel for training and emergency services.

5 The carry-forward of funds is governed by Treasury Board policies. This carry-forward was planned and is earmarked for capital equipment replacement.