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Ensuring Good Animal Practice in Science in Canada

The Canadian Council on Animal Care (CCAC) is an autonomous and independent body, created in 1968 to oversee the ethical use of animals in science in Canada. The CCAC is registered as a not-for-profit organization, and is financed primarily by the Canadian Institutes of Health Research (CIHR) and the Natural Sciences and Engineering Research Council (NSERC), with additional contributions from federal science-based departments and agencies and private institutions participating in its programs. It is governed by a Council of representatives from 24 national organizations.

The CCAC acts as a quasi-regulatory body and sets standards (guidelines documents and policy statements) on animal care and use in science that apply across Canada in large part through the CCAC’s other programs of Assessment and Certification, Three Rs and Education, Training and Communications. It is accountable to the general public and is responsible for the dissemination of information on the use of animals in science to Canadians. In addition to guidelines documents and policy statements, the CCAC develops comprehensive annual statistics on the number of animals used in science and produces an annual report to disseminate information on its activities to its constituents and the general public.

The present report covers activities undertaken by the CCAC from April 1, 2010 to March 31, 2011.

Henrik Kreiberg
Chair (2010-2011), CCAC Council
CCAC’s Grant Submission 2011-2014 to CIHR and NSERC

As the national oversight system for the ethical use and appropriate care of animals in science, the CCAC relies mostly on public funds provided by the federal granting Agencies through three-year grants. Discussions between the CCAC and the granting Agencies regarding the CCAC grant submission 2011-2014 started at a meeting on March 29, 2010 where agreement was reached on the Terms of Reference for the Evaluation Committee, and on the format, content and deadline for the submission. On July 7, 2010, at the invitation of the granting Agencies, the CCAC submitted a list of 12 national reviewers and 3 international reviewers as potential members of the CIHR-NSERC Evaluation Committee for the CCAC Grant Submission 2011-2014.

Concluding 10 months of hard work involving both the CCAC Secretariat and Council members, the CCAC grant submission, *Ensuring Good Animal Practice® Keeps Pace with Science*, was delivered to the CIHR-NSERC Evaluation Committee, on December 15, 2010. A formal presentation to and meeting with the Evaluation Committee took place on March 24, 2011, and the final decision of the granting Agencies is expected in late June 2011.

Discontinuance of Lawsuit Against CCAC

On October 15, 2010, the Ontario Superior Court in Sudbury confirmed the discontinuance of all remaining actions filed by 11 Laurentian University students against the CCAC, and that the matter is accordingly at an end after nearly four years of procedures. This action was not solely against the CCAC, and was precipitated by events at Laurentian University over which the CCAC had little control. The processing of this case by the CCAC required 30 working days by various Secretariat members and $43,937.08 in legal fees, with three times that amount covered by the insurers.

To prevent the occurrence of similar cases in the future, in early 2008 the CCAC published the **CCAC policy statement for: senior administrators responsible for animal and use programs** to assist senior administrators in accessing clear information regarding their main responsibilities with their institutional animal care and use program.
Retirement of the CCAC Office Manager

After 39 years of dedicated service to the CCAC as Office Manager, Mrs. Rachelle Fauteux, an icon of the CCAC, retired in June 2011. Having joined the CCAC four years after its creation in 1968 as Secretary to Dr. John Gilman, Director of Assessments, she was promoted to the position of Office Manager in 1995.

Mrs. Fauteux witnessed the evolution of the CCAC from the days when Council undertook all assessment and guidelines duties to its current distributed management system with five standing committees. During this time, the Secretariat has grown from four to twenty-two members, in line with the increase in volume and complexity of animal-based research, teaching and testing activities. Mrs. Fauteux greatly contributed to making the CCAC the mature and recognized organization it is today.

The former position of office manager was reclassified to executive assistant and advertised in November 2010. Ms. Deborah Biehler, the first choice of the selection committee, received a bachelor’s degree in business administration from the University of Ottawa in 1989. She worked at Welton, Beauchamp, Nixon Inc. (1991-2001) and the National Arts Center (2001-2003) in Ottawa (Ontario), and was the Executive Director of the women’s center Actu-Elle in Gatineau (Québec) (2003-2011).

Review of the Structure and Size of Council

The Planning and Finance (PF) Committee discussed the inclusion of zoos and aquaria under the mandate of the CCAC at their February 19, 2010 meeting. The PF Committee recommended that the CCAC “not accept further requests from zoos, aquaria and other similar institutions to join the CCAC Program until the review on the scope and coverage of the CCAC’S overall Program is completed by the PF Committee.”

The chair of the PF Committee and the Executive Director reviewed the membership of the five standing committees and their proposals for FY 2010-2011 were considered and adopted by the Board of Directors at their June 29, 2010 meeting. In reviewing the composition of the committees, the preferences of the Council members and the needs of each committee were taken into account.

As per the Process for Identifying and Appointing Limited Term Members to CCAC Council (2001), and given the current availability of one limited term member seat on CCAC Council, a formal call for nominations was sent on April 7, 2010 to the CCAC Council and Secretariat, inviting them to:

(i) provide a detailed rationale for including a particular expertise or view not already present on Council

(ii) suggest national organizations that would provide Council with such needed expertise/views

No nominations were received by the deadline of September 17, 2010.

A formal call for nominations of potential recipients for the Harry C. Rowsell Award for Outstanding Service to the CCAC was sent on June 30, 2010 to members of the CCAC Council and Secretariat. No nominations were received by the closing date of September 29, 2010.

A joint meeting of the PF Committee and the Assessment Committee was held on October 1, 2010 to discuss the proposed standing rules defining the composition and responsibilities of the restructured Assessment Committee (now the Assessment and Certification Committee). It was agreed that the proposed draft standing rules needed to include criteria for the selection of external ad hoc members of the Assessment Committee. The revised document was approved by the CCAC Council at its March 26, 2011 meeting.
Recognition of CCAC Standards at the National Level

MOU with Federal Science-Based Departments and Agencies (SBDAs)

In the footsteps of signing the first memorandum of understanding (MOU) with the National Research Council of Canada on February 11, 2010, the CCAC Executive Director pursued communications with the following SBDAs:

- **Agriculture and Agri-food Canada (AAFC)** – An October 4, 2010 teleconference between the Executive Director, members of the Assessment Sector and three representatives of AAFC led to two sets of exchanges, with the third draft of the MOU discussed at a face-to-face meeting on February 22, 2011. The AAFC-CCAC MOU was signed on March 21, 2011. [completion: 100%]

- **Canadian Food Inspection Agency (CFIA)** – In his June 29, 2010 letter, the Chief Veterinary Officer of CFIA, Dr. Brian Evans, confirmed that it is an opportune time to examine the implementation of an MOU, and invited the Executive Director to better define the expectations of both the CFIA and the CCAC with the Vice-President, Science Branch of CFIA. The CCAC is awaiting a response to its January 10, 2011 message to the Vice-President, Science Branch of CFIA. [completion: 25%]

- **Department of National Defence (DND)** – Since the late 1980s, DND has been operating under Ministerial direction that mandates compliance with CCAC policy statements for the entire department; this internal directive has been under review over the past year. In response to the CCAC’s January 10, 2011 letter, DND informed the CCAC that updating the directive was an essential first step that should precede discussions on the MOU, and confirmed that it was now appropriate to submit the MOU to departmental authorities. Future discussions should proceed swiftly on the basis of the thoroughly revised directive. [completion: 75%]

- **Environment Canada (EC)** – A September 2010 meeting between the Executive Director, members of the Assessment Sector and the EC representative on the CCAC Council led to further exchanges. The CCAC was informed on January 12, 2011 that EC would pursue discussions on the MOU, pending the briefing of their new Assistant Deputy Minister by the Science and Technology Branch. [completion: 60%]

- **Fisheries and Oceans Canada (DFO)** – The person designated by DFO to initiate discussions on the MOU between the CCAC and DFO was contacted on May 17, 2010. Acknowledgement of the CCAC’s letter was received on May 28, 2010, noting that DFO will review the CCAC’s proposal and compare it with the department’s existing volunteer participation in meeting CCAC standards. The CCAC is awaiting a response to its January 7, 2011 reminder. [completion: 25%]
• **Health Canada (HC)** – In response to a January 11, 2011 reminder regarding follow-up on draft 5 of the MOU, the CCAC was informed on February 4, 2011 that the HC representative on Council expected to complete his discussions with representatives from other divisions of HC within the next few weeks. [completion: 85%]

**Health Canada (HC): Use of Controlled Drugs**

At the request of the CCAC Council, a formal letter was sent to the Director General, Legislative and Regulatory Policy Directorate, Strategic Policy Branch, HC on October 29, 2009, identifying negative impacts on the welfare of research animals resulting from:

i) excessive delays for researchers in obtaining approval for purchase and use of controlled drugs through an exemption

ii) the curtailing of dispensing privileges for institutional veterinarians

The letter encouraged HC to improve its process for managing controlled drugs in research environments and suggested specific actions.

The response letter received from the Office of Controlled Substances (OCS) in early March 2010 led to further discussions at a meeting on June 23, 2010 between representatives of the OCS and the CCAC Secretariat. The OCS accepted the CCAC’s offer to publish a statement in the 2010 edition of the CCAC newsletter, *RESOURCE*, detailing actions undertaken by the OCS over the previous 18 months in relation to the above-mentioned concerns, namely:

- redesigning internal procedures to streamline the application process and ensure clarity and consistency in the application requirements, allowing OCS to reduce the processing time for scientific exemption applications from the 16 week backlog experienced in 2009 to the current 4-6 week timeframe
- updating the *Application Form for an Exemption to Use a Controlled Substance for Scientific Purposes*, as well as developing the *Import Authorization and Permit Application Form* for use when a controlled substance is imported by an OCS licensed dealer on behalf of a researcher (these new forms are now available on the HC website)
- developing a guidance document that provides further information to applicants when applying for a section 56 exemption for scientific purposes
- making a written commitment to continue to work with the research community, individual researchers and veterinarians to ensure timely access to necessary controlled substances in order to ensure the advancement of their research protocols and the appropriate and ethical care of research animals

**Environment Canada (EC) and Health Canada (HC): New Substances Notification Regulations (Organisms)**

The biotechnology provisions of Environment Canada’s *New Substances Notification Regulations (Organisms) (NSNR(O))* play a central role in the federal government’s regime for regulating animate products of biotechnology (i.e. living organisms), and have been under review by the New Substances Program (NSP), jointly administered under the *Canadian Environmental Protection Act* (1999) by HC and EC. The CCAC became actively involved in the ongoing process to review the NSNR(O) in June 2007, to facilitate timely access to relevant scientific expertise in line with the development of the *CCAC guidelines on: genetically-engineered animals*.

The NSP held a third multi-stakeholder consultation workshop on June 17-18, 2010 (previous consultations were held June 2006 and December 2007, and a scientific expert group meeting was held December 2009), where the CCAC was represented by the Guidelines and Three Rs Programs Director, Dr. Gilly Griffin. There was increased representation from the laboratory animal medicine community at the third multi-stakeholders consultation workshop, as compared to past workshops; however, there was low representation from the scientific community. It appears that the proposed framework is now solidifying into two components:

i) a mechanism for exemption from notification for higher organisms meeting the definition of a research and development organism when imported into, or manufactured in, adequate containment

ii) a notification process for all other ‘new’ higher organisms imported into, or manufactured in, Canada

This clarity and exemption for notification should be welcomed by the research community.

It appears that organisms used for research and development will be exempt from notification provided that the institution has a qualified designated authority (QDA) in place, who has determined that the organism is low risk and adequately contained. The concept of a QDA at each institution to determine the level of risk posed by any new organism was well accepted by participants of the workshop, and should be a logical progression from the requirements for a biosafety officer under the 2009 *Human Pathogens and Toxins Act* administered by the Public Health Agency of Canada.
Recognition of CCAC Standards at the International Level

Federation of European Laboratory Animal Science Associations (FELASA)

The Executive Director represented the CCAC in the following activities at the June 14-17, 2010 Symposium of FELASA in Helsinki, Finland:

- International Council for Laboratory Animal Science (ICLAS) International Consortium meeting on the revision and update of the *International Guiding Principles for Biomedical Research Involving Animals* developed by the Council for International Organizations of Medical Sciences (CIOMS, 1985)

- a presentation titled *Towards International Guidance Concerning the Production, Care and Use of Genetically Altered Animals* as part of the ICLAS Seminar on CIOMS Principles and Harmonization

- a presentation on *Enhancing Effective Three Rs Searches – the CCAC Three Rs Search Guide* as part of the seminar on Systematic Reviews, Including the Enhanced 3Rs Search

- an invited presentation on the Eighth World Congress on Alternatives and Animal Use in the Life Sciences as part of the Closing Plenary

Eighth World Congress on Alternatives and Animal Use in the Life Sciences (WC8)

A preliminary version of the comprehensive scientific program, developed by Dr. Gilly Griffin (CCAC Guidelines and Three Rs Programs Director and Chair of the Scientific Program Committee for the WC8), was posted on the WC8 website (www.wc8.ccac.ca) in December 2010, with a call for abstracts and registration posted in early January 2011.

The organizing co-chair of the WC8 and the CCAC Executive Director, Dr. Clément Gauthier, is confident that despite the difficult economic climate worldwide, sponsorship goals and attendance targets (800-900 participants) will be met. In addition to ICLAS, the following organizations represented on the CCAC Council have provided sponsorships for the WC8:

- the Canadian Association for Laboratory Animal Medicine (CALAM)
- the Canadian Veterinary Medical Association (CVMA)
- the Canadian Institutes for Health Research (at the Bronze level with a $25,000 grant obtained through an application to the Meetings, Planning and Dissemination Grant Competition)

International Council for Laboratory Animal Science (ICLAS)

Elected as Secretary General of ICLAS in 1999, Dr. Gilles Demers, CCAC Assessment Director, was subsequently elected as President for two consecutive terms, ending in June 2011. Dr. Demers accomplished the major task of restructuring and rejuvenating this organization and aided in making it highly successful and recognized worldwide as the focus for international harmonization of standards for the care of animals used in science. His dedication and efforts have resulted in the publication in scientific journals of a series of internationally recognized guiding principles on endpoints, euthanasia, protocol review, and training of animal users, among others, that have reflected extremely well on the CCAC over the years. Beginning in June 2011, Dr. Gilly Griffin, CCAC Guidelines and Three Rs Programs Director, will succeed Dr. Demers as Canada’s representative on ICLAS.
Assessment and Certification

Demand for the AAC Program continues to grow rapidly. This growth is fuelled by many factors: increasing workload from certified institutions (i.e. those holding a CCAC Certificate of GAP – Good Animal Practice®) that are developing larger or more complex animal-based programs; inclusion of new institutions (small academic and private organizations) requesting CCAC certification; and growing interest from other institutions that want to learn more about the certification process.

Expansion of the Assessment and Certification Committee

The AAC Committee includes eight permanent members and four ad hoc members, allowing the committee to better address its large workload. AAC Committee members are divided into two balanced teams of scientific, veterinary and community representation from various parts of the country, which are grouped to provide French and English services, in order to review all assessment reports and institutional implementation reports and make decisions on certification of institutions.

As a result of its expansion and restructuring, the AAC Committee proposed revised standing rules for its operations in 2010. Updates were required to incorporate significant changes in the Assessment Program since the creation of the original standing rules in 1994, in particular the creation of the CCAC Certificate of GAP – Good Animal Practice® and the idea of certifying, rather than assessing, institutions. Introduced in 1998, the CCAC Certificate is now recognized nationally and internationally as a symbol of sound standards of animal care and use in science, representing the rigorous application of CCAC policy statements, guidelines, and other relevant documents.

For institutions, CCAC certification demonstrates to the public, funders, regulators, collaborators, and clients that they are meeting independent and broadly recognized Canadian standards of ethical use and care of animals in science.

To capture the integral role of certification in the assessment process, CCAC Council approved new standing rules for the committee in March 2011, accepted a change in name to the Assessment and Certification Committee, and renamed the Assessment Program as the Assessment and Certification Program.

Assessment Visits

Of the 72 assessment visits conducted between April 1, 2010 and March 31, 2011, there were 56 regular, 8 interim, 6 special, and 2 orientation visits. In total, 205 institutions currently participate in the program.
Assessment and Implementation Reports: the Certification Process

Following assessment visits, assessment directors, scientific writers, assessment panel and AAC Committee members collaborate to prepare detailed reports. Assessment reports support institutions in achieving best practices in animal care and use, identify deficiencies, and, in most cases, include recommendations to help institutions improve their animal care and use program and meet CCAC guidelines and policy statements.

The average time required to produce an assessment report was 10.6 weeks (range from 1-22 weeks) for 69 reports sent between April 1, 2010 and March 31, 2011. Assessment reports were produced for 55 regular, 7 interim, 5 special, and 2 orientation visits. The assessment report production time spans the interval between the assessment visit date and the date of sending the report to the institution.

Institutions respond to assessment report recommendations by submitting an implementation report to the CCAC, with a different due date for each type of recommendation (Major, Serious and Regular). One hundred and twenty two institutional responses addressing CCAC recommendations were received between April 1, 2010 and March 31, 2011. One hundred and ten of these responses have been processed to date, in an average of 7.9 weeks (range of time to process responses: 0 to 13 weeks, with a value of 0 representing an institution whose Certificate is renewed immediately following an interim visit where no recommendations were made). In addition, 21 responses that were received during the 2009-2010 fiscal year were processed between April 1, 2010 and March 31, 2011 in an average of 10.3 weeks (range in weeks to process the responses: 0 to 16 weeks).

Between April 1, 2010 and March 31, 2011, the CCAC Certificate of GAP – Good Animal Practice® was issued to 56 institutions that responded to CCAC recommendations and were assigned a status by the AAC Committee. Fourteen institutions were assigned a status of Compliance, thirty-nine institutions were assigned a status of Conditional Compliance and three institutions were assigned a status of Probation. The Certificate of GAP – Good Animal Practice® and status of Compliance were renewed for two institutions following an interim visit.

The AAC Sector implemented a more formal and standardized certification process, with an outside limit of 15 months for the entire certification process for the vast majority of institutions, from the assessment visit to the granting of a status, as determined by the AAC Committee. The proposed timeline is presently included as an appendix to the CCAC policy statement on: the certification of animal care and use programs.

Additional Assessment and Certification Program Activities

CCAC Survey of Animal Use

All institutions participating in the Assessment and Certification (AAC) Program submitted their animal use data for 2009 to the CCAC. The animal use data were validated and analyzed in the fall of 2010, and the results of the 2009 survey of animal use were posted on the CCAC website on December 23, 2010.

Review of CCAC policy statements and interpretation bulletins related to the Assessment and Certification Program

Confidentiality – The CCAC policy statement on: confidentiality of assessment information was updated in 2010 from the 1999 version, and approved by Council in October 2010.

Certification – The new CCAC policy statement on: the certification of animal care and use programs was given final approval by Council in October 2010 and replaces the CCAC policy statement on: compliance and non-compliance (2000) and the Canadian Institutes of Health Research and Natural Sciences and Engineering Research Council Policy on Non-compliance (2000).

Recommendations – Revisions to the CCAC policy statement on: definitions of recommendations made in CCAC reports are underway, and will be developed in parallel with an accompanying new interpretation bulletin. The AAC Committee will be working to finalize both documents in 2011.

Scientific Merit – CCAC guidance on the review of scientific merit and animal-based methods also requires updating. In re-examining the CCAC’s current guidance on this matter (i.e. the CCAC policy statement on: the importance of the independent peer review of the scientific merit of animal-based research projects (2000) and Appendix II of the CCAC policy statement for: senior administrators responsible for animal care and use programs (2008)), the CCAC forwarded a discussion paper to all of its constituents for feedback. The comments received were summarized and presented to the AAC Committee in March 2011. The AAC Committee will examine ways of updating this guidance, with consideration given to a revised policy state-
ment and new interpretation bulletin. In parallel with the updating of CCAC material, the CCAC and the federal granting Agencies have been working on a joint statement on the review of scientific merit and animal-based methods, and will pursue this work to match the updated CCAC guidance.

**Post-approval monitoring** – A new interpretation bulletin on post-approval monitoring has been drafted to provide additional, practical information on the elements of post-approval monitoring and the ways in which they can be applied. The draft interpretation bulletin was presented to the AAC Committee in March 2011. The AAC Committee will be working to finalize the document in 2011.

**Human Resources** – A new interpretation bulletin on human resources is under development which will provide institutions with examples of possible animal care and use program structures for various categories of institutions and describe the human resources required to effectively support these structures.

### Reducing the Burden for Participants and Engaging Institutions

The following measures have been taken to reduce the burden for participants and engage institutions in the assessment and certification process:

- The process of “indirect certification” was formalized in 2010 with the publication of the **CCAC policy statement on: certification of animal care and use programs**, whereby an institution that uses few animals can be covered by the animal care and use program of a CCAC-certified institution through a formal arrangement, in order to become eligible for NSERC funds (for example). Five small academic institutions are now indirectly certified at lower costs.
- There are continued refinements and reductions of the pre-assessment documentation requirements for institutions that have received two consecutive statuses of Compliance through the implementation of the shorter **Program Review Form (PRF)** for interim visits. Plans to develop a tailored PRF for teaching institutions are underway.
- Procedures have been established for assessment visits, mostly to institutions with mid- and large-sized animal care and use programs, to ensure that the CCAC assessment panel meets separately with the senior administrator responsible for the institutional animal care and use program.
- The development process for CCAC policy statements to be applied within institutional programs now includes early, widespread consultation with relevant institutional stakeholders.

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**Training for Veterinarians New to Laboratory Animal Medicine**

This continues to be a high priority for the CCAC, given the shortage of specialized veterinarians. In 2004, the CCAC identified 38 institutions that used the services of consulting veterinarians with limited exposure to, or knowledge of, species that are commonly used in research. Subsequent to efforts made by the CCAC and other organizations, including the Office of Open Learning at the University of Guelph, the number of these institutions has decreased to 24.

Appendix VI of the **CCAC policy statement for: senior administrators responsible for animal care and use programs** (2008) provides guidance for the continuing education of consulting veterinarians and newly hired laboratory animal veterinarians. CCAC assessments now focus on ensuring that institutions understand this guidance and apply it to their own programs where relevant. The sector is also contacting institutions and their veterinarians individually to follow up on this more specifically.
Guidelines

The delivery of the CCAC’s mandate is based on guidelines and policy statements which give clear direction to institutional animal care and use programs. Guidelines documents are developed and revised in response to the current and emerging needs of the research community, advances in laboratory animal care, and the needs of the AAC Program.

Guidelines Development

Euthanasia of Animals Used in Science
The CCAC guidelines on: euthanasia of animals used in science was published on the CCAC website on November 30, 2010.

Care and Husbandry of Marine Mammals
The Subcommittee on Marine Mammals is working to address the remaining outstanding issues in order to finalize the CCAC guidelines on: the care and husbandry of marine mammals for publication.

Genetically-engineered Animals
The draft CCAC guidelines on: genetically-engineered animals used in science underwent a third peer review in October-November 2010. The feedback received from all 33 external reviewers is currently being considered by the subcommittee developing this guidelines document as they work to finalize it for publication, through a fourth widespread review.

Air Quality of Laboratory Animal Facilities
A draft guidelines document is under preparation by the Subcommittee on Air Quality to address the air quality parameters required at the cage level and at the room level, as well as factors that might influence air quality. This will be a supplement to the CCAC guidelines on: laboratory animal facilities—characteristics, design and development (2003), expanding on issues related to air quality in response to an expressed need from institutions and the AAC Program.

Care and Husbandry of Rats
A subcommittee has been established to revise Chapter XXI Laboratory Rats of the CCAC Guide to the Care and Use of Experimental Animals, volume 2 (1984). As a starting point, the subcommittee is consulting guidance documents published in other jurisdictions, such as the Australian Guidelines for the Housing of Rats in Scientific Institutions, Appendix A of the European Convention for the Protection of Vertebrate Animals used for Experimental and other Scientific Purposes and the U.S. National Research Council’s Guide for the Care and Use of Laboratory Animals.

Care and Husbandry of Nonhuman Primates
A subcommittee has been set up to develop guidelines on the care and husbandry of nonhuman primates as an update of Chapter XX Non-Human Primates of the CCAC Guide to the Care and Use of Experimental Animals, volume 2 (1984). An outline of the guidelines document has been developed and the subcommittee is currently preparing a preliminary draft through consultation with guidance documents from other jurisdictions and a review of the scientific literature.

Care and Husbandry of Mice
A subcommittee has been initiated to revise Chapter XIX Laboratory Mice of the CCAC Guide to the Care and Use of Experimental Animals, volume 2 (1984). Work on this document will also begin with a review of the relevant guidance documents available and the scientific literature.
Additional Guidelines
Program Activities

Guidelines Implementation

The CCAC scientific session at the Canadian Association for Laboratory Animal Science (CALAS) Symposium on April 27, 2010 in Québec City focused on the CCAC guidelines on: euthanasia of animals used in science (2010). The session included presentations on the development and the guiding principles of this guidelines document, as well as the implementation of the euthanasia guidelines. Invited speakers also provided presentations on particular aspects of euthanasia and the application of the Three Rs.

Consultations for the impact analysis for the CCAC guidelines on: genetically-engineered animals (in prep.) concluded in June 2010. A total of six consultations were held to discuss the major changes under consideration for the new guidelines, as requested previously by the CCAC Forum 2008 attendees and members of the Board of Directors. Collectively, the consultations involved investigators, technicians, facility managers, directors of animal care, veterinarians, ACC members, assessment directors and the director of the AAC Program. Groups were selected to ensure feedback was received from those working with genetically-engineered mice, genetically-engineered fish (zebrafish and salmon) and genetically-engineered farm animals.

Interdisciplinary Collaborations

The CALAS Symposium also provided opportunity for the Guidelines and Three Rs Programs Director and the Director of Guidelines Development to attend a number of sessions related to the care and use of animals in science, and interact with scientists, veterinarians, research technicians and animal care staff.

On June 15, 2010, the Director of Guidelines Development and one of the CCAC assessment directors attended the annual meeting of the Canadian Action and Perception Network (CAPnet) in Kingston (Ontario). This meeting provided an opportunity to interact with people who have expertise relevant to the development of guidelines on nonhuman primates.

The Guidelines and Three Rs Programs Director participated in the New Substance Notification (Organisms) workshop on June 17-18, 2010 in Gatineau (Québec). She also represented the CCAC at the CVMA Animal Welfare Meeting in Guelph (Ontario) on October 21-22, 2010.

The Guidelines and Three Rs Programs Director and the Research Fellow in the Guidelines Program gave a presentation at the Québec Transgenic Research Network (QTRN) 6th Annual Symposium in Montréal (Québec) on November 13, 2010. The presentation was entitled *Listening to our peers: two case studies in obtaining feedback from CCAC constituents*.

International Harmonization

The Guidelines and Three Rs Programs Director attended the American Association for Laboratory Animal Science (AALAS) 61st Annual Meeting in Atlanta (Georgia) on October 12-14, 2010. Additionally, the Executive Director attended the Federation of European Laboratory Animal Science Associations (FELASA) Symposium, New Paradigms in Laboratory Animal Science, in Helsinki (Finland) on June 14-17, 2010, and gave a presentation entitled *Towards International Guidance Concerning the Production, Care and Use of Genetically Altered Animals*.

CCAC Fellowship in Animal Policy Development

The Research Fellow in the Guidelines Program, Ms. Elisabeth Ormandy, completed the data collection and statistical analysis for her second web-based survey concerning public attitudes towards the use of animals in science. She also completed the data collection for her interview-based research project exploring people’s values relating to the use of genetically-engineered animals in science.

Ms. Ormandy presented her work at the following conferences as part of her fellowship:

- CALAS Symposium, Québec City QC, April 26, 2010
- FELASA Symposium, Helsinki, Finland, June 14-17, 2010
- Universities Federation for Animal Welfare Conference, York UK, June 30, 2010
- Animals, Research and Alternatives Conference, Washington DC, August 26-27, 2010
- QTRN Annual Symposium, Montréal QC, November 13, 2010

Ms. Ormandy undertook a five-week stage in the UK in June 2010, which provided an opportunity to exchange information with various UK-based organizations working in the field of the Three Rs, animal welfare or animal policy. She also had educational stages at the Toronto Centre for Phenogenomics on February 9-11, 2011, and at the Centre Hospitalier de l’Université de Montréal on February 22, 2011.
Three Rs

The Three Rs tenet (replacement, reduction and refinement) provides a set of guiding ethical principles that help to minimize adverse impacts to animals used in science and improve their welfare. It is widely accepted as the ethic of animal experimentation and is embedded in the conduct of animal-based science in Canada and internationally.

Development of the Theoretical Basis of the Three Rs Program

Activities undertaken to support the development of the theoretical basis of the program included:

- examination of the concept of categories of invasiveness which resulted in the acceptance of a review paper (Fenwick N., Ormandy E., Gauthier C. and Griffin G. (2011) Classifying the severity of scientific animal use: a review of international systems. Animal Welfare [in press])
- organization of a seminar titled Considering the Three Rs in an Experimental Program, which was presented by international Three Rs expert Dr. Derek Fry, former Chief Inspector of the UK Home Office, at the 2010 CCAC National Workshop
- presentation of the usefulness of the CCAC Three Rs Search Guide, including consideration of the difficulties with protocol-level only searches, at the Federation of European Laboratory Animal Science Associations (FELASA) Symposium (11th) on June 14-17, 2010. The accompanying paper, coauthored with Dr. Eileen Denovan-Wright, Dalhousie University, has been accepted for publication in Laboratory Animals

Prioritization of Three Rs Program Projects

Scientific literature is reviewed regularly, with best practice information captured in a CCAC reference database that is publicly available on the Three Rs microsite. The information, (e.g., emerging trends in research, new Three Rs alternative methods, or international policy decisions) is now being included in a prioritization matrix used by the Three Rs Committee as part of a decision-making process to prioritize Three Rs activities. CCAC animal use statistics for 2009 were reviewed by the committee to identify trends in animal use, in particular for Category of Invasiveness E.

Promotion of the Three Rs

CCAC Three Rs Microsite

Additional content for the Three Rs microsite was developed and launched in August 2010, including a new section for Replacement that profiles Three Rs-related research carried out in Canada, with the first example being tissue engineering at Université Laval. Expanded content for Standard Operating Procedures and statistical consulting were also added in September 2010. A new section on Three Rs research funding has also been develop and work has begun to redesign the microsite in line with the style of the new CCAC website.
Several promotional initiatives were carried out, including:

- an article on refinement alternatives on the microsite, published in the CALAS newsletter (Griffin G. and Fenwick N. (2010) CCAC’s Three Rs Microsite: Gateway to Refinement Information. CALAS/ACSAL Member’s Magazine 44(1):30-33)
- an advertisement in the CALAS directory
- a Three Rs presentation at the CALAS Symposium on April 27, 2010
- 600 magnets advertising the microsite, which were distributed at various scientific meetings

Presentations

The following presentations related to the Three Rs were given by the Guidelines and Three Rs Programs Director and the Research Fellows:

- Griffin G. Encouraging and supporting the Three Rs. Canadian Association of Research Ethics Boards (CAREB) and Canadian Association of University Research Administrators (CAURA) West Regional Conference, Saskatchewan SK, November 25-27, 2010
- Griffin G. The CCAC Three Rs Program and Microsite. American Association of Laboratory Animal Science (AALAS) National Meeting (61st), Atlanta, Georgia, October 10-14, 2010
- Griffin G. and Ormandy E. Listening to our peers: two case studies in obtaining feedback from CCAC constituents. Quebec Transgenic Research Network (QTRN) Annual Symposium (6th), Montréal QC, November 13, 2010

Eighth World Congress on Alternatives and Animal Use in the Life Sciences (WC8)

Preparation for the WC8 continues with the development of the website and scientific program. The scientific program contains the following themes:

I Safety and efficacy testing for chemicals, pharmaceuticals and biologicals

II Animal welfare for refinement and high quality science

III Incorporation of the Three Rs in education and training

IV Animal welfare for refinement and high quality science

V Replacement and Reduction in basic research

Abstracts were accepted until April 28, 2011. Single day registration and full registration were both available, and the final scientific program will feature days that are geared towards a specific topic or special interest group. For instance, the first day will highlight topics of interest to institutional ACCs and a special session of particular relevance to ACC members, sponsored by the CCAC, will be presented on Sunday, August 21, 2011. The WC8 will take place in historic Montréal (Québec) from August 21-25, 2011. Further information is posted on the website (www.wc8.ccac.ca).

CCAC as Canada’s Three Rs Centre

The CCAC is internationally viewed as Canada’s Three Rs Centre, which facilitates collaborations with similar organizations. The CCAC research fellows visited several Three Rs centres, including the UK National Centre for the Replacement, Refinement and Reduction of Animals in Research (NC3Rs) and the UK Fund for the Replacement of Animals in Medical Experiments (FRAME) in June 2010, to share experiences and approaches in the implementation of the Three Rs.
Supporting the Implementation of the Three Rs

Implementation of the Three Rs in Research

An online survey of Canadian animal-based investigators was carried out in May 2010. The goals of the survey were to:

i) establish a benchmark to measure the effectiveness of the Three Rs Program

ii) acquire empirically-based knowledge of how the Three Rs are currently understood and implemented by Canadian investigators

Through collaboration with researchers at the University of British Columbia (UBC) Centre of Applied Ethics, the survey design and questions were developed with extensive input from both the UBC research team and CCAC Council members. The survey is part of a project that has full Research Ethics Board approval. A total of 414 researchers completed the survey, which included 298 principal investigators and 116 other researchers (e.g. graduate students, post-doctoral fellows, research associates). The paper reporting the results, co-authored by Ms. Nicole Fenwick, Dr. Peter Danielson and Dr. Gilly Griffin will be submitted for publication in *PLoS One*. An internal report for CCAC is also in preparation.

Implementation of the Three Rs in Teaching/Training

The Three Rs Program continues to facilitate the work of the Board of Directors Working Group on Pedagogical Merit Review. These efforts have resulted in the production of a white paper entitled *Report of the Pedagogical Merit Review Working Group to the CCAC Board of Directors: Rationale and Recommendations for Educational Merit Review*, with recommendations on how the CCAC should proceed in developing a policy for the review of the pedagogical merit of animal use protocols for teaching and training purposes.

Implementation of the Three Rs in Testing

The Guidelines and Three Rs Programs Director attended the following scientific meetings related to Three Rs in testing:

- meeting organized by the Johns Hopkins Bloomberg School of Public Health, the Animal Legal Defense Fund, and the Lewis & Clark Law School’s Center for Animal Law Studies on The Future of Chemical Toxicity Testing: The US and Beyond, Washington DC, June 21-22, 2010
- Health Canada Science Forum, Ottawa ON, November 1-2, 2010
- Humane Society of the United States sponsored Human Toxicology Consortium meeting, Washington DC, November 9-10, 2010
- Potency Testing of Vaccines for Animals: the Way from in Vivo to in Vitro, an international scientific workshop organized by the Paul-Ehrlich-Institut, the International Association for Biologicals, and the European Directorate for the Quality of Medicines, Langen, Germany, December 1-3, 2010
- 50th Society of Toxicology Meeting, Washington DC, March 6-10, 2011

CCAC Fellowship in Animal Policy Development

A manuscript for publication, discussing the results of the study results of Ms. Mara Long, Research Fellow in the Three Rs Program, and identifying the obstacles and opportunities to the implementation of the Three Rs in vaccine testing, is in preparation. During her fellowship, Ms. Long was able to expand her study to include European stakeholders, with a view to providing a comparison between Canadian and European drivers for the implementation of the Three Rs in vaccine testing.

In June 2010, Ms. Long undertook a five-week stage in the UK and The Netherlands, which provided the opportunity to exchange information with various UK organizations working in the field of the Three Rs, animal welfare or animal policy and to collaborate with colleagues at the University of Utrecht in the development of the European component of her study.


The fifth Research Fellow, Ms. Shannon Duffus, started in the Three Rs Program in January 2011. Ms. Duffus will be working on the obstacles and opportunities to implementation of analgesia in protocols where animals are likely to experience pain.
Education, Training & Communications

The Education, Training and Communications (ETC) Program is responsible for developing education and training opportunities for CCAC constituents. Additionally, the ETC Program works to ensure the CCAC communicates effectively with the research community, those involved in the care of laboratory animals, and the general public. Like most other organizations, the CCAC uses its website as the key communications tool and the ETC Program plays a vital role in the development and maintenance of this public interface.

Training and Education

CCAC National Workshop 2010

The CCAC National Workshop 2010 was held in Ottawa on May 13-14, 2010. This workshop included plenary sessions given by invited international and national speakers, as well as breakout sessions facilitated by workshop participants with insight and expertise relevant to the topic of discussion. The 200 participants were encouraged to select breakout sessions that specifically addressed issues they face in their respective institutions, as sessions were organized with respect to different types of institutions, different types of animal care and use programs, and different types of animals being cared for and used. The sessions were designed to allow participants to share successful solutions that have been implemented.

National Institutional Animal User Training (NIAUT) Program

The CCAC training modules (as well as other training resources recommended by the CCAC) were reorganized into five knowledge streams, based on different animal types and housing systems. This reorganization assists institutions in tailoring their training programs to the specific needs of their animal users (i.e., investigators, post-doctoral fellows, research staff and graduate students working with animals).

A new, more flexible format for the training modules was developed in October 2010, consisting of:

i) a PowerPoint presentation

ii) companion notes to provide more detailed information and links to other useful resources

iii) a list of questions for self-directed study and examination

iv) a handout of relevant references

This new format has been applied to the core module relevant to farm animal users, which was published in October 2010, and two satellite modules on genetically-engineered farm animals and farm animals used in biomedical applications, published in February 2011. This new format seems to be very-well received by CCAC constituents who find that “Overall, it really helps to have an ‘off the shelf’ PowerPoint to use, instead of having to generate one on [their] own”.

The ETC Program continues to collaborate with volunteer members of the Canadian Association for Laboratory Animal Medicine (CALAM) to review the content of existing training modules from the
Core and Animals Housed in Vivaria streams. The ETC Program approached CALAM for their assistance, as many CALAM members are involved in institutional animal user training delivery. Three modules in the Animals Housed in Vivaria Stream (Laboratory Animals Used in Biomedical Research, Infectious Diseases, and Pain, Distress and Endpoints) were revised and published in February 2011. The remaining modules of the Animals Housed in Vivaria Stream and the modules of the Core Stream are expected to be revised and published by 2013. The CCAC sincerely appreciates the contributions of the CALAM members who volunteered to undertake this major task.

CCAC Webinars

Four webinars were offered between April 1, 2010 and March 31, 2011:

- **Renouveler l’accent sur la mise en œuvre des Trois R (remplacement, réduction et raffinement)** was presented on April 8, 2010, with 19 registrations, representing approximately 100 participants
- **ACC Site Visits of Animal Facilities** was presented on June 22, 2010, with 86 registrations, representing approximately 350 participants
- **Les visites des installations par les CPA** was presented on October 5, 2010, with 24 registrations, representing approximately 147 participants
- **Training Animal Users, ACC Members and Animal Health Professionals** was presented in English on February 10, 2011, with 84 registrations, representing approximately 355 participants

**CALAS 49th Symposium**

The CCAC participated in the 49th CALAS Symposium in Québec City on April 23-27, 2010 by offering education and training opportunities to participants through a workshop and a scientific session. The ACC 201 workshop targeted ACC members working with more complex scientific protocols. The CCAC-sponsored scientific session focused on the topic of euthanasia and offered participants the insights of an impressive panel of experts including: Dr. Badru Moloo, University Health Network; Ms. Joanna Makowska, University of British Columbia; Dr. Toni Bayans, University of Alberta, and Dr. Gilly Griffin, Ms. Julie Dale and Ms. Marie Bédard from the CCAC.

For the third consecutive year, the CCAC provided sponsorship to CALAM for the workshop titled Design of Experiments Involving Laboratory Animals on April 24, 2010, and the session on post-approval monitoring on April 26, 2010.

**Communications**

**Information Capsules**

The following email information capsules were sent to CCAC constituents:

- April 28, 2010: Important notice from the Canadian Council on Animal Care (CCAC) [capsule announcing that the CCAC Council waived the requirement for the refresher course every five years as it appears on the CCAC guidelines on: institutional animal user training (1999)]
- June 8, 2010: Register to this CCAC Webinar on ACC Site Visits of Animal Facilities [reminder sent on June 17, 2010]
- June 21, 2010: CCAC Fellowship in Animal Policy Development / Bourse de recherche du CCPA sur l’élaboration des politiques relatives aux animaux
- July 5, 2010: Guidelines for Human Pluripotent Stem Cell Research / Lignes directrices sur les cellules souches pluripotentes humaines
- August 25, 2010: Discussion paper on expert peer review of the scientific merit of animal-based research projects
- October 6, 2010: Module de formation du CCPA sur : l’utilisation et le soin éthiques des animaux de ferme en science
- October 6, 2010: CCAC training module on: the ethical use and care of farm animals in science
- October 28, 2010: Parution de la nouvelle édition de RESsource – le bulletin du CCPA
- December 2, 2010: Élaboration et révision de lignes directrices, de politiques et du Manuel sur le soin et l’utilisation des animaux d’expérimentation
- December 2, 2010: Development and Revision of CCAC Guidelines, Policy Statements and volume 2 of the Guide to the Care and Use of Experimental Animals
- January 13, 2011: 8e congrès mondial sur les alternatives et l’utilisation des animaux en sciences de la vie
- January 13, 2011: 8th Word Congress on Alternatives and Animal Use in the Life Sciences – Registration Now Open
• January 18, 2011: Inscrivez-vous au prochain webinaire du CCPA Training Animal Users, ACC Members and Animal Health Professionals
• January 18, 2011: Register for the next CCAC webinar on Training Animal Users, ACC Members and Animal Health Professionals
• January 24, 2011: Mandatory Notification of Reportable Aquatic Animal Diseases / Déclaration obligatoire des maladies des animaux aquatiques assujetties à la réglementation
• February 4, 2011: Le nouveau site Web du CCPA : une panoplie d’informations à la portée de tous
• February 4, 2011: Newly Redesigned CCAC Website - A Wealth of Information and Resources Accessible to All
• February 8, 2011: Réorganisation des modules de formation du CCPA pour une flexibilité améliorée
• February 8, 2011: Reorganization of CCAC Training Modules to Enhance Flexibility
• March 10, 2011: Inscrivez-vous au prochain webinaire du CCPA : Formation des utilisateurs d’animaux, des membres de CPA et des professionnels de la santé animale [reminder sent on March 22, 2011]

RESOURCE

The most recent edition of RESOURCE was published in October 2010. This 16-page newsletter focused on the progress and achievements of all four CCAC Programs (Assessment, Guidelines, Three Rs and Education, Training and Communications), detailed the work carried out by the two research fellows, and included a statement from the Health Canada Office of Controlled Substances on section 56 exemptions for scientific purposes.

Website

The newly redesigned CCAC website (www.ccac.ca) was launched on January 31, 2011. Guided by suggestions and feedback from CCAC constituents, the website was completely redesigned with the goal of providing enhanced searchability and functionality for existing users, and easy access to information for new users including the general public. The redesign included:

i) the creation of specific sections targeted to different audiences (general public, scientific community and institutions)

ii) types of constituents (animal users, animal health professionals, ACC members, and senior administrators)

iii) program-related information (Assessment and Certification, Education and Training, Standards and Guidance, and Three Rs Alternatives).
## CCAC Survey of Animal Use 2009

Number of Animals Used in 2009 by Participants in the CCAC Program

<table>
<thead>
<tr>
<th>Category of Animals</th>
<th>Number of Animals</th>
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<tbody>
<tr>
<td>Amphibia</td>
<td>78,547</td>
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<tr>
<td>Cats</td>
<td>4,730</td>
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<td>Cephalopods</td>
<td>17</td>
</tr>
<tr>
<td>Chinchilla</td>
<td>147</td>
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<tr>
<td>Dogs</td>
<td>11,225</td>
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<tr>
<td>Domestic Birds</td>
<td>88,835</td>
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<tr>
<td>Farm Animals</td>
<td>75,058</td>
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<tr>
<td>Fish</td>
<td>1,648,393</td>
</tr>
<tr>
<td>Fur Animals</td>
<td>2,772</td>
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<tr>
<td>Gerbils</td>
<td>159</td>
</tr>
<tr>
<td>Guinea Pigs</td>
<td>22,478</td>
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<tr>
<td>Hamsters</td>
<td>5,051</td>
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<tr>
<td>Marine Mammals</td>
<td>1,883</td>
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<tr>
<td>Mice</td>
<td>1,051,297</td>
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<tr>
<td>Miniature Swine</td>
<td>268</td>
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<tr>
<td>Non-Human Primates</td>
<td>3,993</td>
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<tr>
<td>Rabbits</td>
<td>8,333</td>
</tr>
<tr>
<td>Rats</td>
<td>265,018</td>
</tr>
<tr>
<td>Reptiles</td>
<td>7,804</td>
</tr>
<tr>
<td>Canadian Wild Species</td>
<td>96,096</td>
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<tr>
<td>Other Non-Canadian Species</td>
<td>2,923</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>3,375,027</td>
</tr>
</tbody>
</table>

For more details, visit [http://www.ccac.ca/en_/publications/audf](http://www.ccac.ca/en_/publications/audf)
CCAC Organizational Chart

Council
28 representatives of 22 regular member organizations. Responsible for establishing policies recommended by the five standing committees, electing the Vice-Chair, authorizing budget and ensuring the duties are performed

Executive Committee
Consists of Chairs of the standing committees and the Executive Committee of the CCAC. Responsible for the property and business of the CCAC

Ad hoc Subcommittees
Responsible for the development and revision of CCAC peer-based guidelines. Includes non-Council members

PLANNING AND FINANCE

Board of Directors

ASSESSMENT AND CERTIFICATION

EDUCATION, TRAINING & COMMUNICATIONS

THREE Rs

GUIDELINES

Chair
Vice-Chair
Past-Chair
Executive Director
(The Chair and Executive Director are ex officio members of all standing committees)

Responsible for reviewing and evaluating the Assessment and Certification Program; reviewing assessment and implementation reports; and assigning CCAC statuses

Responsible for identifying educational, training and communications needs and priorities; internal and external communications; developing and operating an educational resource program

Responsible for identifying opportunities to promote and implement the Three Rs in Canadian science and for coordinating the development of tools to do so

Responsible for identifying the need for CCAC guidelines and for coordinating their development

Responsible for long-term planning, financial oversight and program management evaluation

Responsible for reviewing and evaluating the Assessment and Certification Program; reviewing assessment and implementation reports; and assigning CCAC statuses

Responsible for the development and revision of CCAC peer-based guidelines. Includes non-Council members
Members on CCAC Assessment Panels

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Mrs. Evelina Smith, Sherbrooke, QC
Mrs. Elizabeth Swanson, North Bay, ON
Mr. Claude Tétreault, St-Simon, QC
Mr. Robert Van Tongerloo, Manotick, ON
Ms. Lorna Verschoore, Winnipeg, MB

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Dr. Toni Bayans, University of Alberta*
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Dr. Andrew Winterborn, Queen’s University

* Identifies those members who have served as chairperson
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Mr. Darren Grandel, Ontario SPCA
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Dr. Hélène Héon, Centre Hospitalier de l’Université de Montréal
Dr. Eike-Henner Kluge, University of Victoria
Dr. Harpreet Kochhar, Canadian Food Inspection Agency, Ottawa
Dr. Lauryl Nutter, Toronto Centre for Phenogenomics
Dr. Sui-Pok Yee, University of Connecticut Health Center

Subcommittee on Marine Mammals
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Dr. Pierre-Yves Daoust, University of Prince Edward Island
Mr. John Ford, Fisheries and Oceans Canada, Nanaimo
Ms. Tracy Stewart, Marineland of Canada Inc., Niagara Falls
Mr. Clint Wright, Vancouver Aquarium

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Dr. Gilles Demers, CCAC Assessment Director
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Dr. Ken Ugwa, Public Health Agency of Canada

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Dr. Lee Niel, University of Guelph

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Dr. Marina von Keyserlingk, Vice-Chair of Council
Dr. Jim Thornhill, Past Chair of Council
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Mr. David Buffett, Chair – Planning and Finance Committee
Dr. Marilyn Keaney, Chair – Education, Training and Communications Committee
Dr. Doug Morck, Chair – Assessment and Certification Committee
Dr. Martin Paré, Chair – Guidelines Committee
Dr. Clément Gauthier, Executive Director (non voting ex officio)

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Dr. Marina von Keyserlingk

Mr. Henrik Kreiberg (voting ex officio)
Dr. Clément Gauthier (non voting ex officio)

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Mr. Bill Pearce
Dr. René St-Arnaud
Dr. Éric Thorin
Dr. Mark Torchia
Ms. Evelina Smith
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Dr. Michael Baar (non voting ex officio)
Ms. Marie Bédard (non voting ex officio)
Dr. Gilles Demers (non voting ex officio)
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Dr. Patricia Turner
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Dr. Clément Gauthier (voting ex officio)
Dr. Gilly Griffin (non voting ex officio)
Ms. Julie Dale (Secretariat liaison person)

Three Rs Committee

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Dr. Toni Bayans
Ms. Katharine Browne
Dr. Eileen Denovan-Wright
Mr. Darren Grandel
Mr. Henrik Kreiberg (voting ex officio)
Dr. Clément Gauthier (non voting ex officio)
Dr. Gilly Griffin (non voting ex officio)
Ms. Nicole Fenwick (Secretariat liaison person)
CCAC Member Organizations and Representatives

<table>
<thead>
<tr>
<th>Organization</th>
<th>Representative(s)</th>
</tr>
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<tbody>
<tr>
<td>Agriculture and Agri Food Canada (AAFC)</td>
<td>Dr. Anne Marie de Passillé</td>
</tr>
<tr>
<td>Association of Canadian Faculties of Dentistry (ACFD)</td>
<td>Dr. James Gilchrist</td>
</tr>
<tr>
<td>Association of Faculties of Medicine of Canada (AFMC)</td>
<td>Dr. Jim Thornhill</td>
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<tr>
<td>Association of Universities and Colleges of Canada (AUCC)</td>
<td>Dr. Eileen Denovan-Wright Ms. Dawn Jeffrey Dr. Sylvie Marleau Dr. Mark Torchia</td>
</tr>
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<td>Dr. Dorine Gilbert</td>
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<td>Canadian Cancer Society Research Institute (CCSRI)</td>
<td>Dr. René St-Arnaud</td>
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<td>Canadian Council of Departments of Psychology (CCDP)</td>
<td>Dr. Martin Paré</td>
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<td>Canadian Faculties of Agriculture and Veterinary Medicine (CFAVM)</td>
<td>Dr. Douglas Morck Dr. Marina von Keyserlingk</td>
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<td>Dr. Albrecht Schulte-Hostedde</td>
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<td>Dr. Tom Moon</td>
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<td>Canadian Veterinary Medical Association (CVMA)</td>
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<td>Environment Canada (EC)</td>
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<td>Fisheries and Oceans Canada (DFO)</td>
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<td>Health Canada (HC)</td>
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<td>National Research Council (NRC)</td>
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<td>Natural Sciences and Engineering Research Council (NSERC)</td>
<td>Dr. Sara Iverson</td>
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</table>

* Identifies limited term member
# CCAC Secretariat Personnel

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## Administration Sector

<table>
<thead>
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<tbody>
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## Guidelines and Three Rs Sector

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## Education, Training and Communications Sector

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