

Canadian Council on Animal Care  
Conseil canadien de protection des animaux

**Good Animal Practice in Science**  
**Bonnes pratiques animales en science**



***Canadian Council on Animal Care***

# ***Annual Report*** ***2009-2010***

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# INTRODUCTION

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 (its guidelines documents and policies) on animal care and use in science that apply across Canada. 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 policies, 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, 2009 to March 31, 2010.

## CCAC FIVE-YEAR PLAN 2009-2014

Concluding 18 months of constituent's engagement in the CCAC's long-term planning exercise, the *CCAC Five-Year Plan 2009-2014* was adopted by the CCAC Council on October 4, 2009 and posted on the CCAC website ([www.ccac.ca](http://www.ccac.ca)).

The current five-year plan is based on responses to the *CCAC Strategic Planning Questionnaire (2009-2014)*, letters submitted by academic institutions as part of the CCAC's 2008-2011 submission to the granting Agencies, and the *CCAC Forum 2008 – Building on Strength*. In May 2008, the CCAC, assisted by NSERC and the CIHR, broadly distributed the *CCAC Strategic Planning Questionnaire (2009-2014)* to the research community across Canada. A total of 184 individual responses were received and tabulated in a confidential manner by an external consultant. In addition, academic institutions in Canada were invited to submit an open assessment of the CCAC as part of the review of the CCAC 2008-2011 grant submission to NSERC and CIHR; the granting Agencies provided the CCAC with anonymous versions of the 13 letters received. Issues identified from the letters and the individual responses to the Questionnaire formed the basis of focused discussions for participants in the *CCAC Forum 2008 – Building on Strength*, held on October 3, 2008.

The Forum, as well as the responses to the Questionnaire and the letters to the granting Agencies, were valuable contributions for ensuring the relevance of the *CCAC Five-Year Plan 2009-2014* and building a future that resonates with stakeholders and constituents, including the Canadian public. Elements of the Plan were further discussed in the 2009 edition of the CCAC newsletter *RESOURCE*, published on the CCAC website.

The CCAC would like to express its most sincere appreciation to the scientists, veterinarians, community representatives, animal welfare representatives, senior administrators of research and teaching institutions, and the CIHR and NSERC for their support and essential contributions to the rigorous consultation process that led to a most comprehensive strategic plan and an accompanying action plan to guide the CCAC over the coming five years.



# REVIEW OF THE STRUCTURE AND OPERATIONS OF COUNCIL

The former Planning and Priorities Committee and Finance Committee merged as of April 1, 2009 to become the Planning and Finance Committee.

The interim chair of the Planning and Finance Committee and the Executive Director reviewed the membership of the five standing committees. Their proposal for fiscal year 2009-2010 was considered and adopted by the CCAC Board of Directors at their June 15, 2009 meeting. In reviewing the composition of the committees, the choices of the Council members and the needs of each committee were taken into account.

In implementation of objective 1.7.1 of the *CCAC Five-Year Plan 2009-2010*, regarding the expansion of the membership of the Assessment Committee (AC), a seventh regular member was added to the AC for 2009-2010 and four Council members were cross-appointed as ad hoc members. One additional external bilingual ad hoc member was appointed by the Board of Directors on October 2, 2009.

A call for nominations to fill the limited term seat available on Council was sent to Council and Secretariat members on October 7, 2009. No nominations were received by the closing date of December 7, 2009.

## RECOGNITION OF CCAC STANDARDS

### 1. At the National Level

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In Canada, the use of animals in science is a provincial responsibility, with the guidelines and policies set by the CCAC serving as national reference standards. The provincial legislations in six of the seven provinces that have legislated on the matter make specific reference to CCAC guidelines documents and policies. The CCAC encourages federal and provincial regulators and funders of animal research to reference the CCAC standards in their legislation and programs.

#### **National Research Council of Canada**

On February 11, 2010, the CCAC and the National Research Council of Canada (NRCC) agreed on the final terms of the first memorandum of understanding (MOU) to ever be signed between the CCAC and one of the science-based departments and agencies of the federal government. This MOU outlines the responsibilities of the CCAC and the NRCC in ensuring appropriate care and use of animals in science undertaken or funded by the NRCC.

#### **Health Canada**

One of the elements that the CCAC assesses during assessment visits is whether the institutions are following Health Canada (HCan) regulations for the management of controlled drugs. Major issues related to controlled drugs that impact negatively on animal welfare and on security have been identified in a number of institutions. These issues, as well as actions to address them, were discussed during the October 4, 2009 meeting of the CCAC Council. At the Council's request, a formal letter was sent on October 29, 2009 to the Director General of the Legislative and Regulatory Policy Directorate in the Strategic Policy Branch of Health Canada, Mrs. H  l  ne Quesnel, identifying excessive delays for researchers in obtaining approval for purchase and use of controlled

drugs through an exemption and the curtailing of dispensing privileges for institutional veterinarians as major issues impacting negatively on the welfare of research animals. The letter encouraged HCan to improve its process for managing controlled drugs in research environments and suggested specific actions.

### **Environment Canada-HCan New Substance Program**

The biotechnology provisions of the *New Substances Notification Regulations* (NSNR) 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* (CEPA) 1999 by HCan and Environment Canada. The CCAC became actively involved in the ongoing process to review the NSNR (Organisms) 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 has determined that a third multi-stakeholder consultation workshop will be held in June 2010, with a smaller "Scientific Expert Group" (SEG) meeting prior to this workshop to provide advice on the scientific basis of the various background documents and on the scope and focus of the issues to be addressed at the workshop. The CCAC followed up on the NSP's July 30, 2009 request for input in nominating appropriately qualified individuals (13 scientists, 4 veterinarians and 2 administrators) on August 13, 2009. Five of the CCAC nominees were amongst the 12 participants in the December 11-12, 2009 meeting of the SEG.

### **B.C. Ministry of Environment (MoE)**

In late November 2009, the CCAC was informed that a new permit application for possession of controlled alien species (CAS) for non-personal purposes will be introduced through the *BC Wildlife Act*, effective April 1, 2010. After several exchanges of correspondence, the MoE agreed to revise the permit application form so that research and education institutions would be required to have a CCAC Certificate of GAP—Good Animal Practice® to fulfill the requirements for an animal welfare plan. In order to simplify requirements from research and education institutions, the MoE also agreed that applications will be for species rather than individual animals, as long as all animals of one species are held in similar enclosures. Relevant BC institutions participating in the CCAC Program received an email capsule from the CCAC regarding this new regulation.

## **2. At the International Level**

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The CCAC monitors developments at the international level and maintains relationships with advisory and governing bodies and scientific societies interested in the use of animals in science. As per the *CCAC Five-Year Plan 2004-2009*, the harmonization of international standards is amongst the top priorities of the CCAC Guidelines Program. The following are supporting activities undertaken by the CCAC.

### **Australia**

Other than Canada, Australia is the only country with no national legislation regulating the care and use of animals in science; the authority for animal care and use in sciences resides at the state/territorial level. Their system of Animal Ethics Committees (AECs) is based on the Canadian system.

While the CCAC has developed its system over a 40-year span, a comparable system has developed in Australia over the last 20-25 years. The similarities and differences that have occurred over the years were explored through a two-month professional development leave of absence of the CCAC Executive Director in Australia, where he benchmarked the CCAC's oversight system against that of Australia, based on: 1) focused meetings with selected members of AECs in the five major regions (South Australia, Victoria, Queensland, Australian Capital Territory, and New South Wales); 2) a 45-minute public seminar titled *The Canadian Council on Animal Care and Australia: The Beaver and the Kangaroo*, followed by a question and answer session in each of the five states; and 3) extensive meetings with state regulators of the five states and National Health and Medical Research Council (NHMRC) officials. Knowledge obtained on areas where the CCAC could gain insight from the



Australian system has been transferred to the Education, Training and Communications Sector regarding the use of animals in primary and secondary schools, and to the Assessment Sector regarding enhancement of the assessment report review process.

### Thailand

As a result of the April 29, 2009 invited presentation of the CCAC Executive Director at the Bangkok International Symposium on Laboratory Animal Science, titled *The effective role of the CCAC as Canada's oversight system for the ethical use and care of animals in science*, nine representatives of the National Committee for Research Animal Development of the National Research Council of Thailand (NRCT) participated in a meeting with the CCAC directors on March 9, 2010. The meeting provided an opportunity for in depth discussion of the organizational structure and management of the CCAC and its programs. The following day, the Committee Chair, Dr. Pradon Chatikavanij, and his colleagues toured the NRCC animal facilities and met with the President of NSERC.

### Brazil

The CCAC Executive Director accepted an invitation to give a presentation at the 24th Congress of the Federation of Biological Societies in Aguas de Lindoia, Brazil, on August 19-23, 2009. Titled *Structure and Optimal Functioning of Animal Care Committees*, the presentation was tailored to address the recent adoption of legislation creating the National Council on the Control of Animal Experiments and attracted the lively participation of over 200 participants.

### 7<sup>th</sup> World Congress on Alternatives and Animal Use in the Life Sciences

The CCAC Executive Director and co-chair of the 8th World Congress on Alternatives and Animal Use in the Life Sciences (WC8) participated in the WC7 in Rome on August 30 - September 3, 2009 as a member of the steering committee. During the WC7, he met with members of the Alternative Congress Trust regarding the WC8, gave a presentation on The training of animal users in Canada, chaired the plenary session on Predictive Testing Strategies, and gave a joint presentation on the WC8 with the CCAC Guidelines and Three Rs Programs Director during the closing plenary lecture.

### World Organization for Animal Health (OIE)

The CCAC was invited by the Canadian Food Inspection Agency (CFIA) to contribute comments on the report of the March 2009 meeting of the OIE Terrestrial Animal Health Standards Commission, which included the proposed chapter on the Use of Animals in Research, Testing or Teaching for the *Terrestrial Animal Health Code*. Comments were forwarded by the CCAC to CFIA on August 25, 2009 and considered by the OIE ad hoc Group on Laboratory Animal Welfare at its third meeting in Paris on August 4-6, 2009. A report received from Dr. Gilles Demers, CCAC Assessment Director, President of the International Council for Laboratory Animal Science (ICLAS) and member of the OIE ad hoc Group, included several changes forwarded by Canada to the OIE.

On December 23, 2009, the CCAC provided detailed comments on the draft Chapter 7X–Use of Animals in Research, Testing or Teaching of the OIE *Terrestrial Animal Health Code* to the Government of Canada delegate to the OIE and Executive Vice-President of CFIA, Dr. Brian Evans. In his January 18, 2010 response, Dr. Evans stated that “the comments and supporting justification and views expressed in CCAC’s recommendations are of considerable value to us in formulating Canada’s position on this chapter”. The resulting document was reviewed in February 2010 by the Terrestrial Animal Health Standards Commission, with the revised draft to be finalized for adoption at the 78<sup>th</sup> General Session of the OIE in May 2010.

### China

On September 18, 2009, Dr. Gao Cheng, Director, Office of Shanghai Administrative Committee, and four other Chinese scientific colleagues visited the CCAC. A formal presentation involving the Executive Director and the CCAC directors triggered questions and answers from all parties. Dr. Cheng had previously participated in the CCAC’s September 24, 2008 assessment of Charles River Shanghai and in the CCAC workshop held the following day. Through further scientific interactions with Dr. Demers, on behalf of ICLAS, Dr. Cheng had expressed

great interest in engaging in dialogue with the CCAC. It was concluded that further collaboration between ICLAS, the CCAC and the Shanghai Region was desirable, in the context of globalization of research.

### **American Association for Laboratory Animal Science**

The CCAC Executive Director gave a presentation on the *CCAC guidelines on: the care and use of wildlife* (2003) as part of a seminar titled *Best Practice through the Interpretation and Implementation of the Canadian Council on Animal Care Guidelines on the Care and Use of Wildlife*, which was jointly organized by the Canadian Association for Laboratory Animal Science (CALAS), the Canadian Association for Laboratory Animal Medicine (CALAM) and the CCAC. The seminar was held on November 9, 2009 at the annual meeting of the American Association for Laboratory Animal Science (AALAS) in Denver, Colorado.

## **RESULTS BY BUSINESS LINE**

The activities conducted by the CCAC's four business lines during Fiscal Year 2009-2010 are outlined in the following sections.

### **1. Assessment**

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The CCAC Assessment Program, through a peer review process, is responsible for assessing the care and use of animals for scientific purposes in Canada. The keystone of the CCAC Assessment Program is the local animal care committee (ACC) set up by each participating institution according to the *Terms of Reference for Animal Care Committees* established by the CCAC. Assessment visits are conducted by multi-disciplinary teams of experts and community representatives.

#### **1.1 Personnel for the Assessment Program**

The restructuring of the Assessment Sector was completed on October 2, 2009 and resulted in the promotions of Dr. Michael Baar, DMV to the new position of Assessment Program Director, Ms. Anne Thibaudeau, LLB, MSc to the new position of Director of Assessment Communications, and Ms. Jumoke Fasoyinu, BA, BSc to the new position of Certification Officer, Assessments.

#### **1.2 Expansion of the Assessment Committee**

The CCAC Assessment Program continues to grow rapidly in response to many institutions that hold the CCAC Certificate of GAP – Good Animal Practice® developing larger or more complex programs, other institutions seeking to join the program and earn their certificate, and others asking for information about the process. This very large volume of work put excessive pressure on the CCAC AC, whose six Council members had the major responsibility of certifying institutional programs by assigning a status to each participant in the CCAC Program following review of assessment reports and implementation reports.

The fall 2009 expansion of the AC to include seven permanent members and five ad hoc members has been successful in allowing the Assessment Program to better address its large workload. The AC members have been divided into two teams that are balanced for scientific, veterinary and community representation from various parts of the country and 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.



### 1.3 Assessment Visits

Forty-four assessment visits and twenty-one initial/orientation/special/interim visits were completed between April 1, 2009 and March 31, 2010. Four academic institutions and two private institutions joined the CCAC Program during fiscal year 2009-2010.

### 1.4 Assessment and Implementation Reports: the Certification Process

Detailed reports are prepared following each assessment visit, and include recommendations, where necessary, to improve institutional animal care and use programs. Seventy-five assessment reports were produced between April 1, 2009 and March 31, 2010, with an average production time of 8.7 weeks.

One hundred and forty-five institutional responses addressing CCAC recommendations were received between April 1, 2009 and March 31, 2010. One hundred and twenty-three of these responses were processed during fiscal year 2009-2010, in an average of 6.6 weeks (range of time to process responses: 0 to 17 weeks, with a value of 0 representing an institution whose Certificate was renewed immediately following an interim visit where no recommendations were made). In addition, 30 responses that were received during fiscal year 2008-2009 were processed between April 1, 2009 and March 31, 2010 in an average of 16.4 weeks (range of time to process the responses: 4 to 28 weeks).

Between April 1, 2009 and March 31, 2010, the CCAC Certificate of GAP – Good Animal Practice® was issued to a total of 62 institutions that responded appropriately to CCAC recommendations and were assigned a status by the AC. Twelve institutions were assigned a status of Compliance, 49 institutions were assigned a status of Conditional Compliance and one institution was assigned a status of Probation. Certificates of GAP – Good Animal Practice® were renewed for four institutions following interim visits.

The Assessment Sector is implementing 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 time of the assessment visit to the granting of a status, as determined by the AC. The proposed timeline is presently included as an appendix to the draft *CCAC policy statement on: the certification of animal care and use programs* (see section 1.5 Additional Assessment Sector Activities: Review of CCAC policy statements and interpretation bulletins related to the Assessment Program).

### 1.5 Additional Assessment Sector Activities

#### Program Review Form for interim visits

Until fall 2009, institutions eligible for interim visits (i.e. those having achieved two consecutive statuses of Compliance) were asked to complete all fields in the existing, detailed *CCAC Animal Care and Use Program Review Form* (PRF) when preparing for an interim visit. The Assessment Sector has tailored the PRF specifically for interim visits to reduce the burden placed on institutions, asking for only the most pertinent information and most significant changes to institutional animal care and use programs.

#### CCAC Survey of Animal Use

The 2008 animal use data was validated and analyzed during the fall of 2009, and the 2008 survey of animal use was posted on the CCAC website on December 23, 2009.

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

Revision of the following three policy statements is underway: the *CCAC policy statement on: confidentiality of assessment information* (1999), the *CCAC policy statement on: compliance and non-compliance* (2000), and the *CCAC policy statement on: Canadian Institutes of Health Research and Natural Sciences and Engineering Research Council Policy on Non-compliance* (2000). The latter two policies have been combined into the new draft *CCAC*

*polycstatement on: the certification of animal care and use programs.* The federal granting Agencies have provided comments on this draft policy, which have been reviewed by the AC.

The AC has also reviewed a new draft of the *CCAC polycstatement on: confidentiality of assessment information*, which includes updates and information to match the information in the policy on certification. The Assessment Sector is working with the AC, the Executive Director and the Board of Directors to bring both draft policies forward to Council for review and eventual approval.

The *CCAC polycstatement on: definitions of recommendations made in CCAC reports* is being revised in parallel with the development of an interpretation bulletin on this policy. The AC will be working on both documents with a view to bring the policy forward for review by the CCAC Board of Directors later in 2010.

With respect to the four remaining assessment-related policies, the CCAC and the federal granting Agencies will be issuing a joint statement that will clarify the *CCAC polycstatement on: the importance of the independent peer review of the scientific merit of animal-based research projects* (2000) before this policy statement undergoes revision. Revision of the *CCAC polycstatement on: assessment panels* (1999), the *CCAC polycstatement on: the assessment program of the CCAC* (2000), and the *CCAC polycstatement on: animal-based projects involving two or more institutions* (2003) will follow, in accordance with the AC work plan, as regularly updated and approved by the Board of Directors.

A consultative process with the deans of the five Canadian veterinary colleges and other relevant stakeholders, initiated in May 2007, resulted in the publication of the *CCAC interpretation bulletin on: assessing veterinary colleges* in February 2009. This document explains the role of ACCs overseeing animal welfare in veterinary colleges, including veterinary teaching hospitals. Effective communication between the directors of veterinary teaching hospitals and ACCs is paramount to the successful implementation of the CCAC Program.

Existing assessment sector standard operating procedures (SOPs) are reviewed and updated on an ongoing basis. The SOP on assessing large institutions, which will be provided to large institutions prior to their assessment, was approved by the AC in February 2010.

## 2. Guidelines

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The delivery of the CCAC's mandate is based on guidelines and policies which give clear direction to institutional animal care and use programs. Guidelines 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 CCAC Assessment Program.

### 2.1. Guidelines Development

#### ***CCAC guidelines on: the care and use of farm animals in research, teaching and testing***

The farm animal guidelines document was published on the CCAC website on July 24, 2009.

#### ***CCAC guidelines on: euthanasia of animals used in science***

The subcommittee on euthanasia is reviewing the final draft of this guidelines document and considering the remaining outstanding issues, with the aim of finalizing the document for publication. An addendum is also being produced to provide information on the effects of euthanasia methods on research results.

#### ***CCAC guidelines on: the care and maintenance of marine mammals***

The draft marine mammal guidelines document is under review by the subcommittee in order to finalize it for publication.



### **CCAC guidelines on: genetically-engineered animals**

This draft guidelines document was revised based on comments from the widespread review and feedback from the subcommittee. The revised draft is currently under review by the subcommittee in preparation for a final review in 2010.

### **CCAC adoption of Australian care and maintenance guidelines for rats**

A preliminary draft of the adopted guidelines document on the care and maintenance of rats is nearing completion and will be reviewed by the subcommittee prior to peer review.

### **CCAC adoption of Australian care and maintenance guidelines for mice**

A subcommittee has been set up and an outline developed for the adoption of Australian guidelines for the care and maintenance of mice, as a revision of Chapter XIX. Laboratory Mice of the *Guide to the Care and Use of Experimental Animals*, volume 2.

### **Air quality of laboratory animal facilities**

A subcommittee of experts has been set up and relevant reference material is being reviewed through a dedicated SharePoint site, in order to determine areas where there may be sufficient evidence to develop comprehensive guidance on air quality.

## **2.2 Additional Guidelines Program Activities**

### **Guidelines implementation**

A session on the *CCAC guidelines on: the care and use of farm animals in research, teaching and testing* (2009) at the 2009 American Dairy Science Association–Canadian Society of Animal Science–American Society of Animal Science Joint Annual Meeting in Montréal on July 13, 2009 launched the publication of this guidelines document. Members of the farm animals subcommittee gave presentations highlighting information relevant to users of various farm animal species.

An impact analysis on the *CCAC guidelines on: genetically-engineered animals* has been initiated through four consultation meetings, which included investigators, facility managers, animal care directors, veterinarians, animal care staff, research technicians and animal care committee members. Two additional consultation meetings are planned for the coming months, with the view to assist institutions in the implementation of the guidelines document upon publication.

### **International harmonization**

The CCAC contributed to the public review of the revised *Guide for the Care and Use of Agricultural Animals in Teaching and Research* of the US Federation of Animal Science Societies by forwarding comments on the document on September 15, 2009.

The Guidelines and Three Rs Programs Director gave a presentation on international guidelines on the care and use of fish in research, teaching and testing at the consensus meeting of the Norwegian Consensus Platform for Replacement, Reduction and Refinement of Animal Experiments: Harmonization of the Care and Use of Fish in Research, in Oslo, Norway on September 22-24, 2009.

The Guidelines and Three Rs Programs Director, acting on behalf of the International Harmonization Working Group, circulated the draft International Council for Laboratory Animal Science (ICLAS) guidelines on the care and use of genetically-engineered animals for review by the international mouse mutant consortia.

## Interdisciplinary Collaborations

The following scientific meetings were attended by the Guidelines and Three Rs Programs Director:

- 48<sup>th</sup> Annual CALAS Symposium, Toronto ON, April 7, 2009 – the Guidelines and Three Rs Programs Director chaired the CCAC scientific session, *Back to Basics – Housing and Husbandry of Common Laboratory Animal Species*;
- The Aquaculture Association of Canada conference, entitled Fish Welfare and Fish Health, Nanaimo BC, May 12, 2009 – The Guidelines and Three Rs Programs Director gave an invited presentation, *Fish Welfare and the Canadian Council on Animal Care*;
- Canadian Veterinary Medical Association (CVMA) animal welfare committee meeting, Calgary AB, October 21-23, 2009;
- Scientific expert group meeting to advise HCan and Environment Canada on proposed amendments to the New Substances Notification Regulations, Ottawa ON, December 10-11, 2009;
- 5<sup>th</sup> Quebec Transgenic Research Network (QTRN) Annual Symposium, entitled *Transgenesis: New Developments and Applications*, Montréal QC, November 7, 2009 – the Guidelines and Three Rs Programs Director gave an invited presentation on the CCAC guidelines on: genetically engineered animals;
- National Workshop for Wildlife Health Professionals, Ottawa ON, February 23, 2010 – the Guidelines and Three Rs Programs Director gave an invited presentation, *CCAC's Role in Promoting Animal Welfare*; and
- 6<sup>th</sup> Annual Zebrafish Workshop, San Diego CA, March 2-3, 2010 – the Guidelines and Three Rs Programs Director gave an invited presentation, *Global Update on Guidelines for Fish Research*.

### 2.3 CCAC Fellowship

Ms. Elisabeth Ormandy was hired on September 1, 2009 as the CCAC's fourth research fellow in animal policy development. She has completed the first phase of a research project aimed at exploring people's values, attitudes and concerns about the use of genetically-engineered animals in science, which involved a web-based survey. Ms. Ormandy has now started the interview component of the project.

Ms. Ormandy has submitted abstracts to present her work at the following meetings: the CALAS Symposium on April 24-27, 2010 in Québec City; the Federation of Laboratory Animal Science Associations (FELASA) Symposium on June 14-17, 2010 in Helsinki, Finland; and the Universities Federation for Animal Welfare (UFAW) Symposium on June 30, 2010 in York, UK.

Additionally, Ms. Ormandy has been contributing to the impact analysis of the *CCAC guidelines on: genetically-engineered animals*. In March 2010, Ms. Ormandy worked with Genome BC to organize a knowledge translation workshop aimed at bringing together members of animal care committees (ACCs) from different institutions that face decisions about the generation and use of genetically-engineered animals in science. This workshop provided ACC members the opportunity to discuss issues regarding the use of genetically-engineered animals and share best practice information.

## 3. 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.



### 3.1 Creation of the Three Rs Program

The Three Rs Program was initiated in late 2008 and is still in its infancy. Nonetheless, progress has been made in each of the two folds of the Program identified as part of the *CCAC Five-Year Plan 2009-2014*: promotion of the Three Rs, and implementation of the Three Rs. In addition, the Three Rs Program has begun to closely examine the Three Rs as the ethic of animal experimentation.

### 3.2 Development of the Theoretical Basis of the Three Rs Program

An invited paper titled *The welfare of animals used in science: How the "Three Rs" ethic guides improvements* was published in the Canadian Veterinary Journal (Fenwick N, Griffin G. and Gauthier C. (2009) *Canadian Veterinary Journal* 50: 523-530).

A presentation and proceedings paper were prepared for the 7<sup>th</sup> World Congress on Alternatives and Animal Use in the Life Sciences (Griffin G., Fenwick N, Ormandy E. and Gauthier C. (2009) *Applying the information gained from animal impact categorization systems - a case study of Canada's Categories of Invasiveness*). This publication is part of a larger project to examine the concept of animal impact categorization and implementation of various categorization systems worldwide.

Examination of the concept of categories of invasiveness resulted in the publication of a review paper (Fenwick N, Ormandy E, Gauthier C. & Griffin G. (2010) *Worldwide categorization of impacts to animals used in science: a review*) by the peer-reviewed journal *Animal Welfare*.

### 3.3 Prioritization of Three Rs Program Projects

Scientific literature is reviewed regularly to identify papers which could contribute to the CCAC's Three Rs initiatives. Best practice information is being captured into a CCAC reference database, made available on the Three Rs microsite.

### 3.4 Promotion of the Three Rs

#### CCAC Three Rs microsite

The CCAC Three Rs microsite was launched in the fall of 2008. Additional sections of the microsite, the *Three Rs Search Guide* and the *Alternative Test Methods Table: Regulatory and Validation Status* were published in May 2009 and August 2009, respectively. Two further components of the microsite, the CCAC Reference Database and the CCAC Alternatives in Teaching Forum, were launched in December 2009 and January 2010.

A presentation on the new Three Rs Program and two break-out sessions on the microsite (one in English and one in French) were held at the CCAC National Workshop 2009 on May 7-8, 2009 in Ottawa. A poster and display booth advertising the Three Rs microsite were presented at the Society for In Vitro Biology meeting held in Charleston, SC, June 6-10, 2009, at the request of the organizers of the scientific program. The Three Rs microsite was also the topic of a CCAC webinar on January 12, 2010.

#### CCAC as Canada's Three Rs Centre

The Guidelines and Three Rs Programs Director gave an invited presentation on the CCAC Three Rs Program at the 40th anniversary symposium of the UK Fund for Replacement of Animals in Medical Experiments (FRAME), held in Nottingham, UK on June 9-10, 2009. Proceedings from the symposium, including Griffin G. (2009) *The Three Rs - Together it is possible*, were published in FRAME's peer reviewed journal, *ATLA* (Volume 37, Supplement. 2:63-7).

The Guidelines and Three Rs Programs Director also participated at the WC7 held in Rome on August 30-September 3, 2009, where she gave a presentation on the CCAC's Three Rs Program at a session highlighting

the international Three Rs Centres, and attended a meeting of the Three Rs Centres and the John's Hopkins Center for Alternatives to Animal Testing Altweb (CCAC is a project team member).

Preparation for the WC8 continues with the development of a list of contacts and potential program topics solicited since WC7 through personal contacts and through the Alttox.org forum.

### **3.5 Supporting the Implementation of the Three Rs**

#### **Implementation of the Three Rs in Research**

A project to survey investigators to determine Three Rs awareness and provide benchmarks is underway. Assistance was received from the UK National Centre for the Three Rs (NC3Rs) with permission to use the survey designed for UK investigators. Through the partnership established with Professor Peter Danielson, University of British Columbia (UBC), appropriate survey questions have been developed and an online prototype of the survey has been created. The survey will be hosted online by the UBC Centre of Applied Ethics Normative Ethics Research and Development, with beta testing initiated with CCAC Council members in February 2010.

Animal care committee coordinators were surveyed to determine the extent of ACC approval of analgesia-withholding in animal use protocols. Data collection and analysis has been completed and a report is under preparation for publication on the Three Rs microsite.

#### **Promoting Research in Support of the Three Rs**

A discussion was held with Dr. Mario Lamarca, Director of Life Sciences and Special Research Opportunities, NSERC, to explore possible funding options to stimulate the development of "top up" funding for investigators who have already been awarded a grant to carry out additional studies, mainly in the area of refinement alternatives (e.g., improved endpoints, use of analgesics and development of in vitro approaches to monoclonal antibody production).

#### **Implementation of the Three Rs in Teaching/Training**

Background information and a literature list was prepared for the Board of Directors' Working Group on Pedagogical Merit Review. Members of the Working Group have been recruited and the Secretariat liaison is being provided through the Guidelines and Three Rs Programs Director.

Assistance was given in the development of the CCAC training module for research staff using farm animals to include additional Three Rs information.

A forum section on the Three Rs microsite was prepared to support institutions in the implementation of non-animal methods for teaching and training.

#### **Implementation of the Three Rs in Testing**

The Guidelines and Three Rs Programs Director was a member of the Steering Committee for an international symposium hosted by the University of Ottawa and Johns Hopkins University Centre for Alternatives to Animal Testing. The symposium, *International Implications of the Implementation of the National Academies of Sciences' Report – Toxicity Testing in the 21<sup>st</sup> Century*, is one of a series of five symposia to be held across North America in 2009-2010 to discuss the paradigm shift towards evidence-based toxicology recommended in the report.

### **3.6 Fellowship in Animal Policy Development**

Ms. Mara Long, the CCAC's third research fellow, has been progressing with her research project, investigating the obstacles and opportunities for implementation of the Three Rs in vaccine quality control testing. She has



completed 16 interviews with Canadian vaccine stakeholders, and has begun interviews with stakeholders in the Netherlands, the UK and France, to add a comparison with European countries to her study. Preliminary results were presented as a poster at the WC7, held in Rome on August 30–September 3, 2009.

Ms. Long also attended a workshop on vaccine testing, hosted by the European Centre for the Validation of Alternative Methods in January 2010 in Brussels. The workshop allowed her to explore potential opportunities for the reduction of animal use in vaccine testing and to recruit participants for her study.

Ms. Long presented a poster at the annual Society of Toxicology meeting March 7-10, 2010 in Salt Lake City. In addition, she will continue to assist Ms. Nicole Fenwick, Three Rs Program Coordinator, in the review and updating of the *Alternative Test Methods Table* on the CCAC microsite, as well as assist Dr. Gilly Griffin with preparations for the upcoming WC8, taking place in 2011.

## **4. Education, Training and Communications**

The Education, Training and Communications (ETC) Program delivers educational resources to CCAC constituents to ensure the effective operation of ACCs, and develops and realizes the benefits of the extensive network of participants and volunteers. The ETC Program also informs Canadians on the use of animals in science in order to maintain public and political confidence in the humane care and ethical use of animals in science and in the effectiveness of the CCAC oversight system.

### **4.1 Training and Education**

#### **4.1.1 National Institutional Animal User Training (NIAUT) Program**

The ETC Committee continues to work on expanding the education and training resources available for animal users through the development of the core training module on farm animals as part of the NIAUT Program. The development of this module was initiated in June 2009 with the hiring of Ms. Gosia Zobel on contract to write the module under the supervision of the Chair of the Guidelines Committee and member of the Farm Animal Subcommittee, Dr. Marina von Keyserlingk and of Dr. Anne-Marie de Passillé, member of the ETC Committee.

The draft training module, which includes a PowerPoint presentation, companion notes and a set of questions/answers, was reviewed by members of the Farm Animal Subcommittee and other experts in the field of farm animal science in September 2009. The module has been redrafted based on the feedback received.

In January 2010, Ms. Zobel started developing other training modules to complete the suite of resources for farm animal users. These modules focus on genetically-engineered farm animals, farm animals used in biomedical applications, beef cattle and dairy cattle.

#### **4.1.2 Workshops**

##### **CCAC National Workshops**

The CCAC National Workshop 2009, held in Ottawa on May 7-8, 2009, was an expanded two-day format which permitted greater opportunity for interaction between CCAC constituents. The workshop included plenary sessions given by invited international and national speakers and breakout sessions facilitated by workshop participants with insight and expertise relevant to the topic of discussion. Feedback from workshop participants confirmed that the new format was both efficient and well-received.

The preliminary program of the CCAC National Workshop 2010 was posted on the CCAC website in December 2009, advertised during the January 2010 webinar, and sent to constituents in a capsule in January 2010.

## 48<sup>th</sup> CALAS Symposium

The CCAC participated in the CALAS Symposium on April 4-7, 2009 by offering education and training opportunities to the participants through an ACC201 workshop targeting ACC members working with more complex scientific protocols, and a scientific session titled *Back to Basics: Housing and Husbandry of Common Laboratory Species*.

In addition, for the second consecutive year, the CCAC contributed to the sponsorship of the CALAM special session lecture on *The Ethics of Research Animal Use*, featuring Dr. Bernard Rollin, Colorado State University, and Dr. Georgia Mason, University of Guelph.

### 4.1.3 CCAC Webinars

The first CCAC webinar took place on January 12, 2010. This 60 minute web-based seminar, titled *Renewed Focus: Implementing the Three Rs*, included a presentation by Dr. Griffin, Guidelines and Three Rs Programs Director, on the Three Rs Program and the Three Rs microsite, and a presentation by Ms. Marie Bédard, Assessment Director, on the application of the Three Rs as evaluated by the Assessment Program. Both presentations were followed by question and answer periods. There were a total of 138 group registrations for this first webinar, representing an estimated 415 participants. Following requests from webinar participants, it was agreed with CALAS that one Registered Laboratory Animal Technician (RLAT) credit would be attributed upon request to each member of CALAS who participates in a 60 minute CCAC webinar.

## 4.2 Communications

### Parliamentarians

The *CCAC Annual Report 2007-2008* was mailed to all federal members of parliament and senators on April 7, 2009, with a cover letter explaining the role of the CCAC and the national and international recognition of its standards, and offering assistance with questions regarding animals used in science in Canada.

### RESOURCE

The 2009 edition of the CCAC newsletter, *RESOURCE*, was published in December 2009. This issue focused on outcomes of the CCAC Forum 2008, including follow-up actions undertaken by each program as outlined in the *CCAC Five-Year Plan 2009-2014*.

### Article in CALAS-ACSAL Member's Magazine

Following the January 12, 2010 webinar, the editor of the *CALAS-ACSAL Member's Magazine* asked that the CCAC author an article on refinement for their upcoming edition dedicated entirely to this topic. The article was published in the spring 2010 edition of the magazine.

### Article in the NSERC Newsletter

In January 2010, a short article was submitted for inclusion in the next edition of *CONTACT*, the NSERC online newsletter. This article focused on the publication of the *CCAC Five-Year Plan 2009-2014* and the important role played by NSERC and the CIHR in the thorough consultation process that provided the basis for this document.

### Website Redesign

Following up on the review undertaken by the ETC Committee and CCAC Board of Directors in December 2008, the development of a new structure and look for the CCAC website started in early 2009. Among other improvements, separate entry points for animal users, the general public and institutions on the home page will guide visitors through the documents and information that is relevant to them and ensure targeted communication. The structure was finalized and modifications to the content were initiated in January 2010.



## Advertisement for the 8<sup>th</sup> World Congress on Alternatives & Animal Use in the Life Sciences (WC8)

For promotional purposes, the CCAC commissioned the development of a four minute DVD on the WC8 to be hosted by the CCAC in Montréal on August 21-25, 2011. The DVD was presented to over 900 participants as part of the closing plenary session for the WC7 in Rome on August 30–September 3, 2009.

The EIC Sector also created advertisement material to be used at the WC7 to promote the WC8, including a poster, which was published at the back of the Abstracts Book, and postcards for inclusion in the participants' packages. Additional materials were displayed at the CCAC booth throughout the WC7.

### Information capsules

Information capsules on the following subjects were sent to constituents:

- March 2, 2009: CCAC National Workshop 2009;
- March 24, 2009: CCAC – ACC 201 Workshop;
- June 25, 2009: Human Pathogens and Toxins Act;
- July 24, 2009: *CCAC guidelines on: the care and use of farm animals in research, teaching and testing*;
- August 24, 2009: New Law (Human Pathogens): Register by September 21;
- October 21, 2009: Restructuring of the CCAC Assessment Sector;
- November 25, 2009: Launch of the CCAC database of references supporting the ethical use and appropriate care of animals used in science;
- December 15, 2009: Publication of the *CCAC Five-Year Plan 2009-2014* and the 2009 edition of *RESOURCE*;
- December 16, 2009: Renewed Focus: Implementing the Three Rs (Replacement, Reduction and Refinement);
- January 7, 2010: Register now for the first CCAC webinar!;
- January 15, 2010: Registration for the CCAC National Workshop;
- February 3, 2010: B.C. Controlled Alien Species Regulation - TIME SENSITIVE;
- March 15, 2010 : Inscrivez-vous dès maintenant au prochain séminaire du CCPA; and
- March 24, 2010 : Ateliers et formations offerts par le CCPA: webinaire, CPA 201, séance scientifique et atelier national.

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Jim Thornhill, PhD  
Chair (2009-2010), CCAC Council

# APPENDIX I

## CCAC SURVEY OF ANIMAL USE – 2008

Number of Animals Used per Species in 2008 by Participants in the CCAC Program

Species	Total in 2008
Amphibia	44,777
Cats	3,720
Cephalopods	7
Chinchilla	165
Dogs	10,525
Domestic Birds	102,081
Farm Animals	83,238
Fish	499,445
Fur Animals	2,256
Gerbils	531
Guinea Pigs	28,810
Hamsters	5,724
Marine Mammals	10,604
Mice	1,053,946
Miniature Swine	223
Non-Human Primates	4,919
Rabbits	10,342
Rats	305,819
Reptiles	4,645
Canadian Wild Species	99,937
Other Non-Canadian Species	1,101
<b>Total</b>	<b>2,272,815</b>

For more details, visit [http://www.ccac.ca/en/Publications/New\\_Facts\\_Figures/intro.htm](http://www.ccac.ca/en/Publications/New_Facts_Figures/intro.htm)



## APPENDIX II

### MEMBERS ON CCAC ASSESSMENT PANELS

#### Scientific Members

---

- \* Dr. Denis Beauchamp, CHUQ-CHUL  
Mr. Richard Bélanger, Institute of Mental Health Research  
Ms. Linda Campbell, Vanier College
- \* Dr. Judith Caron, ArthroLab Inc.  
Dr. Nicolas Cermakian, Douglas Hospital Research Center, McGill University
- \* Dr. Joseph S. Davison, University of Calgary
- \* Dr. Michel Flamand, Centre hospitalier de l'Université Laval  
Mr. Alain Gauthier, Université de Sherbrooke
- \* Mrs. Karen Gourlay, McMaster University
- \* Dr. Edwin A. Kroeger, University of Manitoba  
Ms. Wilma J. Lagerwerf, University of Western Ontario  
Mr. Phil Lavoie, Vaudreuil-Dorion, QC  
Mr. Rhain Louis, University of Toronto
- \* Dr. William Marshall, St. Francis Xavier University  
Prof. Georgia Mason, University of Guelph
- \* Dr. Donald McKay, University of Alberta
- \* Dr. Tom Moon, University of Ottawa  
Dr. Martin Paré, Queen's University  
Ms. Amanda Plante, University of Saskatchewan
- \* Dr. Aleksandar Popovic, Merck Frosst Canada Ltd.  
Mrs. Christine Quarrington, University Health Network
- \* Dr. Dan W. Rurak, University of British Columbia  
Mr. Martin Ryan, University of Waterloo
- \* Dr. René St-Arnaud, Shriners Hospital for Children  
Dr. Don Stewart, Acadia University  
Ms. Isabelle Tessier, Charles River Laboratories Preclinical Services Montreal
- \* Dr. Mark G. Torchia, University of Manitoba  
Mr. Yannick Trudel, Charles River Laboratories Preclinical Services Montreal  
Ms. Tracy VanOsch, University of Manitoba



## Public Representatives Appointed in Collaboration with the Canadian Federation of Humane Societies Representatives

---

Mr. Tim Battle, Edmonton, AB  
Mr. Roch Bédard, Ste-Adèle, QC  
Mr. Émile Bisailon, Montreal, QC  
Mr. Hugh Coghill, Newmarket, ON  
Dr. Dirk Dekens, Calgary, AB  
Mr. Shawn Eccles, Surrey, BC  
Mrs. Susan Edwards, Elora, ON  
Mrs. Lise Gagnier, Le Gardeur, QC  
Mr. Yvan Girardin, Montreal, QC  
Mr. Brian Godfrey, Nanaimo, BC  
Mr. Darren Grandel, Newmarket, ON  
Ms. Mindy Hall, Newmarket, ON  
Mr. Andrew Hebda, Halifax, NS  
Ms. Carolyn Hickey, St-John's, NF  
Mrs. Lise J. Houde, Ste-Adèle, QC  
Ms. Melissa Logan, Edmonton, AB  
Mr. Ian MacMillan, Saskatoon, SK  
Ms. Connie Mallory, Napanee, ON  
Mr. Glen McGuire, Yoho, NB  
Mr. Robert J. Milling, Ottawa, ON  
Mrs. Claude Provencher, Lévis, QC  
Mr. Louis-André Richard, Ancienne-Lorette, QC  
Ms. Ann Sherman, Charlottetown, PE  
Mrs. Evelina Smith, Sherbrooke, QC  
Mrs. Elizabeth Swanson, North Bay, ON  
Mr. Claude Tétreault, St-Simon, QC  
Mr. Robert Van Tongerlo, Manotick, ON  
Ms. Lorna Verschoore, Winnipeg, MB



## Veterinarian Members

---

- Dr. Simon Authier, LAB PreClinical Research Int'l Inc.
- \* Dr. Kate Banks, University of Toronto
  - \* Dr. Toni Bayans, University of Alberta
  - \* Dr. Denna Benn, University of Guelph
  - \* Dr. Ronald Charbonneau, Consultant
  - Dr. Julie Chevette, Charles River Laboratories Preclinical Services Montreal Inc.
  - \* Dr. Beverly Chua, University of British Columbia
  - \* Dr. Wayne Cole, Ridgetown, ON
  - Dr. Tyrrel de Langley, University of Western Ontario
  - Dr. Jean-Paul Descôteaux, Canilab Inc.
  - Dr. Stéphane Faubert, Cosvet Inc.
  - Dr. Susan H. Fussell, University of Western Ontario
  - Dr. Dorine Gilbert, Charles River Laboratories Preclinical Services Montreal Inc.
  - \* Dr. Stéphane Goulet, Primus Bio-Ressources
  - \* Dr. Jim Gourdon, McGill University
  - \* Dr. Anne-Marie Guérin, Collège Lionel-Groulx
  - Dr. Barb A. Hildebrand, Dalhousie University
  - Dr. Richard J. Hodges, University of Manitoba
  - Dr. Josée Labrecque, Primus Bio-Ressources
  - \* Dr. Jean Lavallée, University of PEI
  - Dr. Denise Levesque, Emory University
  - Dr. Marcus Litman, University of Guelph
  - \* Dr. Melissa L. Madden, University Health Network
  - Dr. Michele Martin, Glenview Animal Hospital
  - Dr. Lynn Matsumiya, McGill University
  - \* Dr. Stéphane Ménard, Université de Montréal
  - \* Dr. Douglas Morck, University of Calgary
  - \* Dr. Badru Moloo, University Health Network
  - Dr. Patrick N. Nation, Animal Pathology Services Ltd.
  - Dr. Chantal Proulx, Aquarium du Québec, SEPAQ
  - Dr. Sonja Saksida, BC Centre for Aquatic Health Sciences
  - Dr. Valerie Smid, University of Manitoba
  - \* Dr. Jonathan Spears, University of Prince Edward Island
  - Dr. Colette Wheler, University of Saskatchewan
  - \* Dr. Craig W. Wilkinson, University of Alberta
  - Dr. Andrew Winterborn, Queen's University

# APPENDIX III

## CONTRIBUTORS TO THE GUIDELINES PROGRAM

### Subcommittee on biotechnology

---

Dr. Bruce Murphy, Université de Montréal, Faculté de médecine vétérinaire (Chair)  
Dr. Garth Fletcher, Memorial University of Newfoundland  
Mr. Darren Grandel, Ontario SPCA  
Dr. H  l  ne H  on, Centre Hospitalier de l'Universit   de Montr  al  
Dr. Eike-Henner Kluge, University of Victoria  
Dr. Harpreet Kochhar, Canadian Food Inspection Agency, Ottawa  
Dr. Frans Leenen, University of Ottawa  
Dr. Lauryl Nutter, Toronto Centre for Phenogenomics  
Dr. Sui-Pok Y  e, University of Connecticut Health Center

### Subcommittee on farm animals

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Dr. Tarjei Tennessen, Nova Scotia Agricultural College (Chair)  
Dr. Laurie Connor, University of Manitoba  
Dr. Anne Marie de Passill  , Agriculture and Agri-Food Canada, Agassiz  
Dr. Ian Duncan, University of Guelph  
Dr. John Feddes, University of Alberta  
Dr. Marilyn Keaney, University of Ottawa  
Dr. Harpreet Kochhar, Canadian Food Inspection Agency, Ottawa  
Ms. Shelagh MacDonald, Canadian Federation of Humane Societies, Ottawa  
Dr. Jeff Rushen, Agriculture and Agri-Food Canada, Agassiz  
Dr. Fred Silversides, Agriculture and Agri-Food Canada, Agassiz  
Dr. Kim Stanford, Alberta Agriculture Food and Rural Development  
Dr. Marina von Keyserlingk, University of British Columbia

### Subcommittee on laboratory animal care

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Dr. Toni Bayans, University of Alberta  
Dr. Sylvia Craig, Dalhousie University  
Dr. Badru Moloo, University Health Network, Toronto



## Subcommittee on laboratory animal procedures

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Dr. Ronald Charbonneau, Centre Hospitalier de l'Université Laval

Dr. Andrew Fletch, McMaster University

Dr. Lee Niel, University of Toronto

Dr. Ernest Olfert, University of Saskatchewan

Dr. Marina von Keyserlingk, University of British Columbia

## Subcommittee on marine mammals

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Dr. Jon Lien, Memorial University of Newfoundland (Chair)

Dr. Pierre-Yves Daoust, University of Prince Edward Island

Mr. John Ford, Fisheries and Oceans Canada, Nanaimo

Mr. Henrik Kreiberg, Fisheries and Oceans Canada, Nanaimo

Dr. Clément Lanthier, Calgary Zoo

Dr. Kay Mehren, Veterinarian Emeritus, Toronto Zoo

Ms. Tracy Stewart, Marineland of Canada Inc., Niagara Falls

Mr. Clint Wright, Vancouver Aquarium

## Subcommittee on testing

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Dr. Chris Banks, Charles River Laboratories Preclinical Services Montréal Inc.

Dr. David Blakey, Health Canada, Ottawa

Dr. Guy Chamberland, Victhom Human Bionics, Saint-Augustin-de-Desmaures, Québec

Dr. Ronald Charbonneau, Centre Hospitalier de l'Université Laval

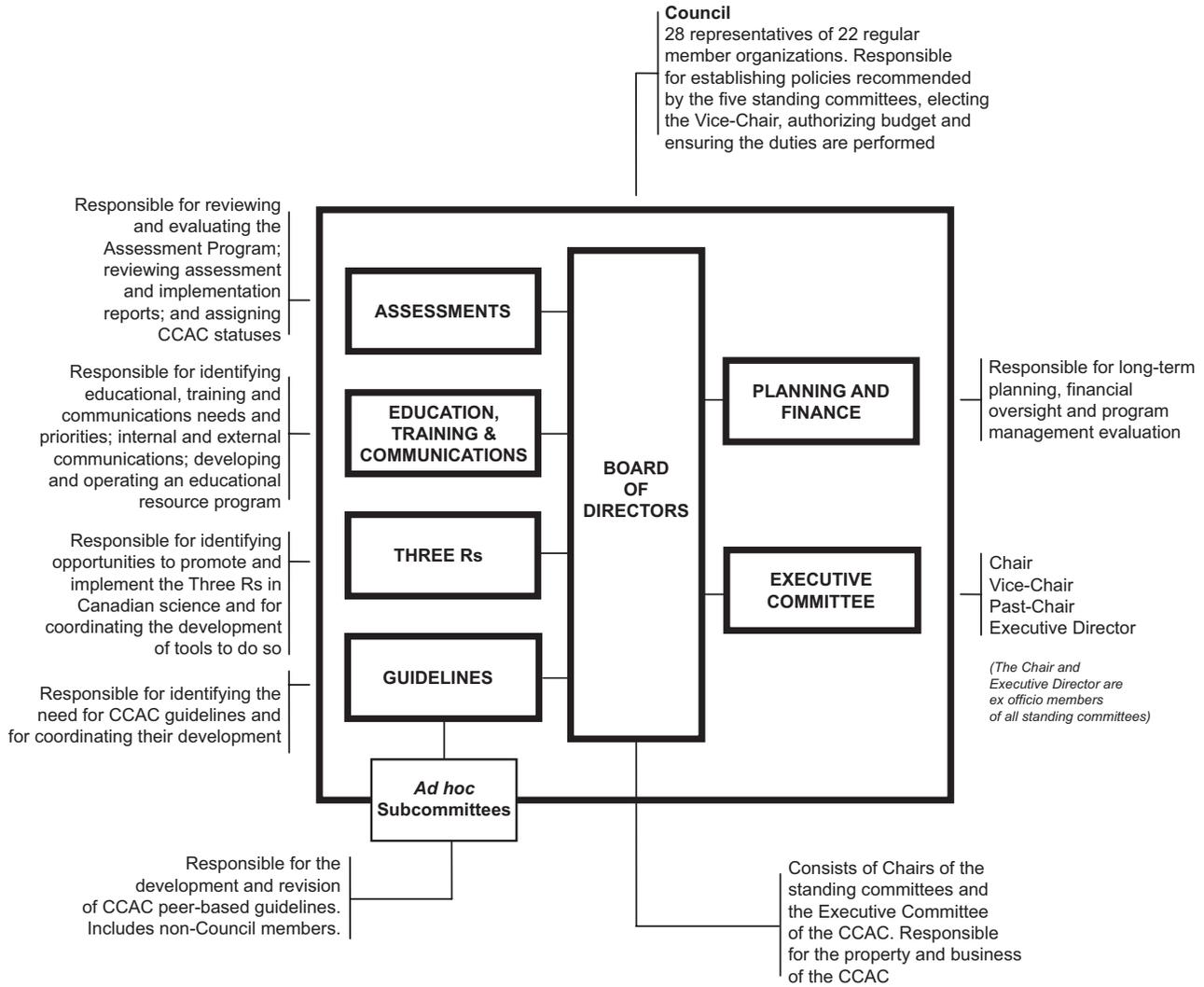
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Dr. Pierre Tellier, Charles River Laboratories Preclinical Services Montréal Inc.

Dr. Patricia Turner, University of Guelph

# APPENDIX IV

## CCAC ORGANIZATIONAL CHART





# APPENDIX V

## MEMBERS OF THE CCAC STANDING COMMITTEES

### Planning and Finance Committee

Mr. David Buffett	(Chair)
Mr. Stephen Bjarnason	
Mr. Henrik Kreiberg	
Dr. Tom Moon	
Mr. Bill Schaper	
Dr. Jim Thornhill	(voting ex officio)
Dr. Clément Gauthier	(non voting ex officio)

### Assessment Committee

Dr. Denis Beauchamp	(Chair)
Dr. Suzanne MacDonald	
Dr. Doug Morck	
Mr. Bill Pearce	
Dr. Albrecht Schulte-Hostedde	
Ms. Evelina Smith	
Dr. Jim Thornhill	(voting ex officio)
Mr. Henrik Kreiberg	(voting ex officio)
Dr. Clément Gauthier	(non voting ex officio)
Dr. Michael Baar	(non voting ex officio)
Ms. Marie Bédard	(non voting ex officio)
Dr. Gilles Demers	(non voting ex officio)
Dr. Denis Rainville	(non voting ex officio)
Ms. Jumoke Fasoyinu	(Secretariat liaison person)

### Education, Training and Communications Committee

Dr. Marilyn Keaney	(Chair)
Dr. Craig Bihun	

Dr. Anne Marie de Passillé	
Dr. Sara Iverson	
Dr. Eike-Henner Kluge	
Dr. Jim Thornhill	(voting ex officio)
Dr. Clément Gauthier	(non voting ex officio)
Ms. Pascale Belleau	(Secretariat liaison person)

### Guidelines Committee

Dr. Marina von Keyserlingk	(Chair)
Dr. James Gilchrist	
Dr. Donna Hutchings	
Dr. Frans Leenen	
Dr. Carol Morgan	
Dr. Jim Thornhill	(voting ex officio)
Dr. Clément Gauthier	(non voting ex officio)
Dr. Gilly Griffin	(non voting ex officio)
Ms. Julie Dale	(Secretariat liaison person)

### Three Rs Committee

Dr. François A. Auger	(Chair)
Dr. Toni Bayans	
Mr. Darren Grandel	
Dr. Peter Greer	
Dr. Laird Shutt	
Dr. Jim Thornhill	(voting ex officio)
Dr. Clément Gauthier	(non voting ex officio)
Dr. Gilly Griffin	(non voting ex officio)
Ms. Nicole Fenwick	(Secretariat liaison person)



## Board of Directors

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Dr. Jim Thornhill	Chair of Council
Mr. Henrik Kreiberg	Vice-Chair of Council
Mr. Stephen Bjamason	Past Chair of Council
Dr. François A. Auger	Chair – Three Rs Committee
Dr. Denis Beauchamp	Chair – Assessment Committee
Mr. David Buffett	Chair – Planning and Finance Committee
Dr. Marilyn Keane	Chair – Education, Training and Communications Committee
Dr. Marina von Keyserlingk	Chair – Guidelines Committee
Dr. Clément Gauthier	Executive Director (non voting ex officio)



## APPENDIX VI

### CCAC MEMBER ORGANIZATIONS AND REPRESENTATIVES

Agriculture and Agri Food Canada (AAFC)	Dr. Anne Marie de Passillé
Association of Canadian Faculties of Dentistry (ACFD)	Dr. James Gilchrist
Association of Faculties of Medicine of Canada (AFMC)	Dr. Jim Thornhill
Association of Universities and Colleges of Canada (AUCC)	Dr. Denis Beauchamp
	Mr. Bill Schaper
	Dr. Suzanne MacDonald
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Canadian Association for Laboratory Animal Science (CALAS)	Dr. Toni Bayans
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	Mr. Darren Grandel
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Canadian Society for Ecology and Evolution (CSEE)*	Dr. Albrecht Schulte-Hostedde
Canadian Society of Zoologists (CSZ)	Dr. Tom Moon
Canadian Veterinary Medical Association (CVMA)	Dr. Carol Morgan
Department of National Defence (DND)	Mr. Stephen Bjarnason
Environment Canada (EC)	Mr. Laird Shutt
Fisheries and Oceans Canada (DFO)	Mr. Henrik Kreiberg
Health Canada (HCan)	Mr. Bill Pearce
Heart and Stroke Foundation of Canada (HSFC)	Dr. Frans H. H. Leenen
National Research Council (NRC)	Dr. Craig Bihun
Natural Sciences and Engineering Research Council (NSERC)	Dr. Sara Iverson

\* Identifies limited term member

# APPENDIX VII

## CCAC SECRETARIAT CONTACTS

### Administration Sector

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### Guidelines and Three Rs Sector

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## Education, Training and Communications Sector

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