



SJDAWC

SIR JAMES DUNN ANIMAL WELFARE CENTRE *at the Atlantic Veterinary College*



PROMOTING ANIMAL WELFARE THROUGH RESEARCH, SERVICE, AND EDUCATION

2021 ANNUAL REPORT

ATLANTIC VETERINARY COLLEGE
UNIVERSITY OF PRINCE EDWARD ISLAND
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Sir James Dunn Animal Welfare Centre, Atlantic Veterinary College, University of Prince Edward Island

MANDATE

The Sir James Dunn Animal Welfare Centre exists to promote animal welfare by generating and disseminating impartial and scientifically based knowledge and understanding of animal welfare issues. Our vision is “to be nationally and internationally recognized as a centre of excellence that advances animal welfare through research, service, and education.”

STRUCTURE

The SJDWC is governed by a management board that reports to the Dean of the Atlantic Veterinary College.

MANAGEMENT BOARD

- » DR. JOHN VANLEEUWEN, Interim Dean, AVC, Management Board Chair (ex-officio), replaced Dr. Greg Keefe, Dean, AVC, Management Board Chair (ex-officio), in December 2021
- » DR. KATY PROUDFOOT, Director, SJDWC (ex-officio)
- » DR. MICHAEL COCKRAM, Chair in Animal Welfare (ex-officio)
- » MS. RACHEL CUTCLIFFE, AVC External Engagement Officer (ex-officio), replaced Ms. Anna MacDonald, AVC External Relations Officer (ex-officio), in September 2021
- » MS. SHERRI PINEAU, Administrative Assistant, SJDWC (ex-officio)
- » DEPARTMENTAL REPRESENTATIVES
 - » DR. SUNNY HARTWIG, Department of Biomedical Sciences
 - » DR. JENNIFER BURNS, Department of Health Management
 - » DR. ORIANA RAAB, Department of Companion Animals
 - » DR. RUSSELL FRASER, Department of Pathology and Microbiology
- » DR. CAROLYN SANFORD, Assistant Deputy Minister, Agriculture and Land, Government of Prince Edward Island, external veterinarian representative
- » MR. RON MAYNARD, external community representative
- » MR. LOGAN BIGELOW, student representative

SJDWC ACTIVITIES IN 2021

16th annual Animal Welfare in Practice Symposium (March)

The SJDWC hosted the first online Animal Welfare in Practice Symposium on “Animal Abuse and Neglect” in 2021. The symposium began with an evening public presentation from Inspector Leslie Hadfield from the Atlantic Police Academy, Holland College, about the link between human and animal violence. The symposium continued with the following speakers and topics:

- » Recent advances in animal cruelty investigations and assessing animal suffering in Canada, Dr. Rebecca Ledger, Langara College
- » Veterinary response to suspected animal abuse and neglect, Dr. Carolyn Sanford, PEI Department of Agriculture and Land, and Dr. Alice Crook, Atlantic Veterinary College
- » Exotic animal case, Dr. Lara Cusack, Atlantic Veterinary College
- » Companion animal case, Mr. Mike Gilbertson, PEI Humane Society
- » Equine case, Dr. Kathleen MacMillan, Atlantic Veterinary College

The symposium was co-hosted by the Sir James Dunn Animal Welfare Centre and the AVC Animal Welfare Club with support from the Animal Welfare Foundation of Canada. Speakers’ presentations may be viewed at awc.upei.ca/animal-welfare-in-practice/.

AVC Fall Webinar Series (September/October)

Renowned animal behaviour expert Dr. Karen Overall gave three webinars on the following topics:

1. Welfare of dogs and cats during veterinary visits: Should we be pre-medicating our patients?
2. New approaches to minimizing stress and distress when handling dogs and cats
3. What’s new, hot, and important in veterinary behaviour and behavioural medicine literature?

These webinars are available on our YouTube channel . Past webinars are currently available at upei.ca/youtube/awc.

GRANTS AWARDED

Through an annual competition and other sources, the SJDAWC provides funding for service and research projects.

SERVICE

Service grants awarded in 2021

GUNN MCQUILLAN H, MACLEAN R. Pegasus feral cat neuter program (2021–22) with the Cat Action Team of PEI (CAT)

VANLEEUEWEN J, HOPSON M, GILROY C, TUMA M, KUTZ S. Improving animal health and welfare of pets in remote northern Canadian communities (2021–22)

Ongoing or recently completed service projects

CAREY AM, NEWELL C. AVC humane dog training program, with the PEI Humane Society (PEIHS)

FOLEY P. Financial aid for spay or neuter of companion animals of owners on fixed income, with SpayAid PEI

FOLEY P. Neutering feral cats on PEI

CUSACK L, RAAB O. AVC Wildlife Service

GUNN MCQUILLAN H, FOLEY P, MACLEAN R, MACDONALD R. Medical and surgical care of homeless animals, with the PEIHS

MUIRHEAD T, MACMILLAN K. Health management services for Handibear Hills Equine Sanctuary, Inc.

GUNN MCQUILLAN H, MACLEAN R. Pegasus Helping Hand Fund

HOPSON M, GILROY C, PROFIT, M. CHINOOK PROJECT (FUNDED INDEPENDENTLY SINCE 2011)

Please visit awc.ypei.ca/service-projects/ for more information about these and other service projects.

RESEARCH

Research grants awarded in 2021

OVERALL K, MONTELPARE W, PROUDFOOT K, SQUAIR C. Effects of veterinary handling on canine behaviour and physiology: Must we scare dogs? (2021–24)

BERNARD P, SPEARS J, BIGELOW L. Identifying optimal experimenter handling and familiarization protocols that can be universally implemented to improve lab animal welfare (2021–22)

RITTER C, PROUDFOOT K, MACMILLAN K, ELSOHABY I, MCKENNA S. Assessment and improvement of horse welfare on Prince Edward Island through benchmarking and a better understanding of horse caretakers' decision-making (2021–24)

Ongoing or recently completed research projects

MCKENNA S, PROUDFOOT K, KEEFE G. Assessment and prevention of pain related to udder engorgement in dairy cows.

MELLISH M. Working donkey welfare assessment and owner education in Meru County, Kenya

PROUDFOOT K, MCKENNA S, MEAGHER R, GORDON M. Understanding the natural behaviour and stress response of newborn dairy calves

VANLEEUEWEN J, HEIDER L, KEEFE G, MCKENNA S, KARIUKI E, GITAU G. Prevention of bovine mastitis through a combination of cow comfort and mastitis intervention on smallholder dairy farms in Kenya

BERNARD P. Ultrasonic vocalizations: A non-invasive ethologically relevant tool to assess home cage welfare in rats

STOUGHTON WB, BRESSAN N. Development of an equine nasogastric intubation simulator as an aid or alternative to the use of animals in teaching

HEIDER L, VANLEEUEWEN J, MCKENNA S, GREENWOOD S, GITAU G, KIMELI P. Frequency, distribution, determinants, and improvements of calf affective welfare status on smallholder dairy farms in Kenya (observational and clinical trials)

MCDUFFEE L, MONTELPARE W, OVERALL K, COCKRAM M. Recognition of stress levels in hospitalized equine patients during various veterinary procedures: Adaptation of a stabled horse stress scale to a cohort of hospitalized horses.

MELLISH M, DAOUST P-Y, PUCHALSKI S, LUCAS Z.
Assessment of welfare of Sable Island horses through morphometric and radiographic hoof evaluation

Please visit awc.upei.ca/research-projects/ for more information about these and other research projects.

GRADUATE STUDENTS FUNDED OR PARTIALLY FUNDED BY THE SJDWC

Current students

LOGAN BIGELOW (PhD student). Ultrasonic vocalizations analysis: A non-invasive ethologically relevant tool to assess home cage welfare in rats (with P Bernard)

MARIANA FONSECA (PhD student). Assessment of antimicrobial stewardship on animal welfare, animal health and antimicrobial resistance on dairy farms (with J Sanchez and L Heider)

MEGAN JEWELL (PhD student). Achieving meaningful improvements in dairy cow welfare by reducing lameness: Evaluating the effectiveness of herd performance benchmarking and integrated, web-based risk management (with G Keefe)

MOLLY MILLS (MSc student, Resident). Improving horse welfare on Prince Edward Island through assessment and benchmarking (with K MacMillan)

HANNAH SPITZER (MSc student). Understanding the natural behaviour and stress response of newborn dairy calves (with K Proudfoot)

CAMILLE SQUAIR (MSc student, Resident). Effects of veterinary handling on canine behaviour and physiology: Must we scare dogs? (with K Overall and K Proudfoot)

MEGAN ROSS (MSc student). Assessment and improvement of horse welfare on Prince Edward Island through benchmarking and a better understanding of horse caretakers' decision making (with C Ritter and K Proudfoot)

MADELINE STEIN (MSc student). Evaluation of pet-owner and veterinary knowledge, attitudes, and practices surrounding antimicrobial use and prescribing practices for companion animals in Canada (with M Evason and J McClure). **Thesis successfully defended in May 2021.**

PUBLICATIONS

COCKRAM M. 2021. Invited Review: The welfare of cull dairy cows. *Applied Animal Science*, 37: 334-352. doi.org/10.15232/aas.2021-02145

CREUTZINGER K, DANN H, KRAWCZEL P, HABING G, PROUDFOOT K. 2021. The impact of stocking density and a blind on the behavior of Holstein dairy cattle in group maternity pens. Part I: Calving location, locomotion, and separation behavior. *Journal of Dairy Science*, 104:7109-7121. doi.org/10.3168/jds.2020-19744

CREUTZINGER K, DANN H, KRAWCZEL P, MORAES L, PAIRIS-GARCIA M, PROUDFOOT K. 2021. The impact of stocking density and a blind on the behavior of Holstein dairy cows in group maternity pens. Part II: Labor length, lying behavior and social behavior. *Journal of Dairy Science*, 104: 7122-7134. doi.org/10.3168/jds.2020-19745

CREUTZINGER K, PEMPEK J, HABING G, PROUDFOOT K, LOCKE S, WILSON D, RENAUD D. 2021. Perspectives on the management of surplus dairy calves in the United States and Canada. *Frontiers in Veterinary Science*, 8:661453. doi.org/10.3389/fvets.2021.661453

CREUTZINGER K, DANN H, MORAES L, KRAWCZEL P, PROUDFOOT K. 2021. Effects of prepartum stocking density and a blind on physiological biomarkers, health, and hygiene of transition Holstein dairy cows. *Journal of Dairy Science*, 104:886-898. doi.org/10.3168/jds.2020-18718

ELLIS J, STRYHN H, COCKRAM M. 2021. Effects of the provision of a hiding box or shelf on the behaviour and faecal glucocorticoid metabolites of bold and shy cats housed in single cages. *Applied Animal Behaviour Science*, 236:105221. doi.org/10.1016/j.applanim.2021.105221

JEWELL M, CAMERON M, MCKENNA S, COCKRAM M, SANCHEZ J, KEEFE G. 2021. Relationships between type of hoof lesion and behavioral signs of lameness in Holstein cows housed in Canadian tie stall facilities. *Journal of Dairy Science*, 104:937-946. doi.org/10.3168/jds.2019-17296

KIMELI P, VANLEEUEWEN J, GITAU G, HEIDER L, MCKENNA S, GREENWOOD S, RICHARDS S. 2021. Evaluation of environmental and comfort enrichment on affective welfare in heifer calves on smallholder dairy farms. *Preventive*

Veterinary Medicine, 189:105296.

doi.org/10.1016/j.prevetmed.2021.105296

KIMELI P, VANLEEUEWEN J, GITAU G, HEIDER L, MCKENNA S, GREENWOOD S. 2021. Impact of calf housing improvement and farmer training on finances, management and animal welfare perceptions on Kenyan smallholder farms. *Journal of Development and Agricultural Economics*, 13(2):119-129. doi.org/10.5897/JDAE2021.1259

KIMELI P, VANLEEUEWEN J, GITAU G, HEIDER L, MCKENNA S, GREENWOOD S, RICHARDS S. 2021. Effects of housing improvements and other factors on the growth of heifer calves on Kenyan smallholder farms. *Tropical Animal Health and Production*, 52:120-135. doi.org/10.1007/s11250-020-02548-4

LOMB J, PROUDFOOT K. 2021. Advances in understanding the needs and improving the welfare of transition dairy cows. In: *Understanding the behaviour and improving the welfare of dairy cattle*. Editor: Endres, M. Francis Dodds, Cambridge, UK. doi.org/10.1201/9781003180630

PROUDFOOT K, KULL J, KRAWCZEL P, BEWLEY J, O'HARA B, DONOHUE K, PIGHETTI G. 2021. Effects of acute lying and sleep deprivation on metabolic and inflammatory responses of lactating dairy cows. *Journal of Dairy Science*, 104:4764-4774. doi.org/10.3168/jds.2020-19332

PROUDFOOT K, VENTURA B. 2021. Impact of a frame reflection on veterinary student perspectives toward animal welfare and differing viewpoints. *Journal of Veterinary Medical Education*, e20190123. doi.org/10.3138/jvme.2019-0123

ROUETTE J, COCKRAM M, SANCHEZ J, MACMILLAN K. 2021. Musculoskeletal injuries in Standardbred racehorses on Prince Edward Island. *Canadian Veterinary Journal*, 62:987-993.

SEELEY K, PROUDFOOT K, WOLFE B, CREWS D. 2021. Assessing allostatic load in ring-tailed lemurs (*Lemur catta*). *Animals*, 11:3074. doi.org/10.3390/ani11113074

WILSON D, PEMPEK J, ROCHE S, CREUTZINGER K, LOCKE S, HABING G, PROUDFOOT K, GEORGE K, RENAUD D. 2021. A focus group study of Ontario dairy producer perspectives on neonatal care of male and female calves. *Journal of Dairy Science*, 104: 6080-6095. doi.org/10.3168/jds.2020-19507

PRESENTATIONS

BIGELOW L, COHEN A, PIMM R, KNIGHT J, BERNARD P. 2021a. Ultrasonic Vocalization Analysis as a Novel Metric to Assess Cage Enrichment in Rats. Presented at the Canadian Association for Neuroscience.

BIGELOW L, COHEN A, PIMM R, KNIGHT J, BERNARD P. 2021b. Ultrasonic Vocalization Analysis as a Novel Metric to Assess Cage Enrichment in Rats. Presented at the American Association for Laboratory Animal Science.

CREUTZINGER K, DANN H, KRAWCZEL P, PROUDFOOT K. 2021. The impact of the social environment on the behavior of late pregnant dairy cattle. Presented at the American Dairy Science Association Annual Meeting.

CREUTZINGER K, PEMPEK J, LOCKE S, RENAUD D, PROUDFOOT K, GEORGE K, WILSON D, HABING G. 2021. United States dairy producers' perceptions of male dairy calves. Presented at the American Dairy Science Association Annual Meeting.

CREUTZINGER K, GOETZ H, PROUDFOOT K, RENAUD D. 2021. The effect of long-distance transportation on lying behavior of surplus dairy calves. Presented at the American Dairy Science Association Annual Meeting.

JOHNSON C, SEELEY K, MEAGHER R, SPITZER H, STRYHN H, AMÉNDOLA L, PROUDFOOT K. 2021. The relationship between personality type, age, sex and physiological indicators of chronic stress in ring-tailed lemurs (*Lemur catta*). Presented at the National Veterinary Scholars Symposium.

KIMELI P, VANLEEUEWEN J, GITAU G, HEIDER L, MCKENNA S, GREENWOOD S. 2021. Determining time-to-onset and faecal egg/oocyst counts of gastro-intestinal parasitism in heifer calves on Kenyan smallholder farms. Presented at the Kenyan Veterinary Association Conference.

KNAP C, VANLEEUEWEN J. 2021. Evaluation of benefits and challenges of temporary veterinary clinics in remote northern Canadian communities. Presented at the National Veterinary Scholars Symposium.

MORSE A, OVERALL K, SQUAIR C. 2021. The effects of veterinary handling on canine behaviour and physiology. Presented at the National Veterinary Scholars Symposium.

PROUDFOOT K. 2021. Enrichments for dairy cattle. Presented at the Professional Animal Auditor Certification Organization's (PAACO) Educational Webinar Series.

PROUDFOOT K. 2021. Defining and assessing farm animal welfare. Presented at the Colorado Veterinary Medical Association Continuing Education Program.

PROUDFOOT K. 2021. Pre-calving comfort and facilities for heifers. Presented at the Cornell Cooperative Extension Dairy Specialists Heifer Program.

PROUDFOOT K. 2021. Giving calves a good start: Lessons from the maternity pen. Presented at the Western Canadian Dairy Science Annual Meeting.

PROUDFOOT K. 2021. Social stress in dairy cows during transition. Presented at the Global Dairy Talks.

WILSON D, HABING G, PROUDFOOT K, ROCHE S, RENAUD D. 2021. Calf care practices and opportunities for improvement. Presented at the American Dairy Science Association Annual Meeting.

WILSON D, HABING G, PROUDFOOT K, ROCHE S, RENAUD D. 2021. Perspectives on male dairy calf care and opportunities to motivate change. Presented at the American Dairy Science Association Annual Meeting.

EDUCATION

COCKRAM M. Animal welfare course for students studying for MA in Animal Welfare, Ethics and the Law, University of Athens, Greece

COCKRAM M AND PROUDFOOT K. Coaches for the AVC student team in the veterinary division of the 2021 annual Animal Welfare Assessment Contest, held virtually in November 2021

COCKRAM M. Course organiser for Department of Health Management graduate student oral and poster seminar session VHM 890 and VHM 990

PROUDFOOT K. VHM 1030: Animal Behaviour and Welfare, course for first-year veterinary students at the AVC

COMMITTEE/BOARD MEMBERSHIPS

M COCKRAM

- » Member of the NFACC Code Development Committee for the Code of Practice for the Care and Handling of Farm Animals: Transportation
- » Expert Member of the European Food Safety Authority, Scientific Panel Animal Health and Welfare, Farm to Fork Working Group on the Transport of Animals (Free Moving Species)
- » Member of Board of Directors of the Atlantic Poultry Research Institute
- » Member of Canadian Veterinary Medical Association Animal Welfare Committee and Chair of large animal sub-committee
- » Section Editor: Welfare and Behaviour for *Animal: The International Journal of Animal Biosciences* and member of the Scientific Board

K PROUDFOOT

- » Representative for the American Dairy Science Association for *CAST, The Science Source for Food, Agriculture and Environmental Issues*
- » Section Editor for *Journal of Applied Animal Welfare Science*
- » Reviewer for the Ontario Ministry of Agriculture (OMAFRA), Alliance-Tier I Research Program
- » Reviewer for the Natural Sciences and Engineering Research Council of Canada (NSERC) Discovery Grants Program

AWARDS

- » 2021 Sir James Dunn Animal Welfare Summer Research Award
 - » Allison Morse, AVC Class of 2024
- » 2021 Christofor Award in Animal Welfare
 - » Nicholas Johnston, AVC Class of 2022
- » 2021 Dr. Tom A W Taylor Scholarship
 - » Julia Bland, AVC Class of 2023

FUNDING

- » Sir James Dunn and Christofor Foundations:
founding and sustaining funding
- » Multi-year donors: Fairview Animal Hospital,
Vetcetera Animal Hospital, Glenn Loranger, and
Derek Mathers
- » Project funding:
 - » Research support: Veterinarians Without
Borders—Canada; Dairy Farmers of Canada
 - » Pegasus feral cat neuter program: Pegasus Family
Foundation, an advised fund of the Silicon Valley
Community Foundation
 - » Pegasus Helping Hand Fund: Pegasus Family
Foundation, an advised fund of the Silicon Valley
Community Foundation; Drs. Stephen and Tina
McCarthy; Fran Mercier
 - » Chinook Project: Rachel Beals and Sandi McRae
- » Universities Federation of Animal Welfare, UK
(student initiatives)
- » Many other generous individual supporters *in
memoriam*

CONTACT INFORMATION

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