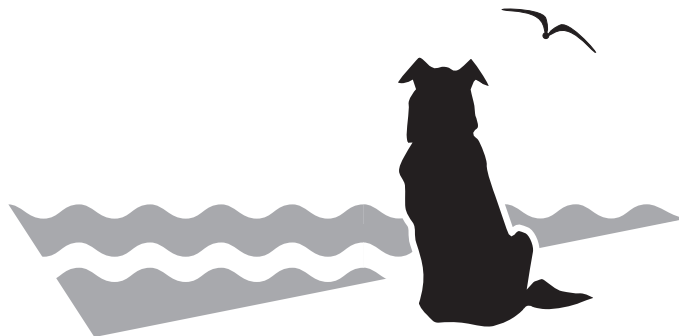




AVC NEWS

NUMBER 19 • SUMMER 2007



Sir James Dunn Animal Welfare Centre
ATLANTIC VETERINARY COLLEGE • UNIVERSITY OF PRINCE EDWARD ISLAND

From the Coordinator's Desk



Welcome to the *Summer 2007 AWC News*, the newsletter of the Sir James Dunn Animal Welfare Centre (SJDAWC) at the Atlantic Veterinary College, University of Prince Edward Island. With this issue, we are especially pleased to announce the appointment of Dr. Michael Cockram to the Chair in Animal Welfare at AVC (below). Dr. Cockram will join us in late August.

This edition contains descriptions of the six projects recently funded through the SJDAWC 2007 grant, bringing to over 110 the number of projects funded since 1994. This year, the Centre has funded four new research projects and renewed funding for two successful service projects, one of which continues the highly successful humane dog training programme at the PEI Humane Society.

You will also find information on the upcoming third annual "Animal Welfare: In Practice" conference (September 2007). This year's theme is equine welfare and we are excited about the excellent line-up of speakers and topics. The newsletter also includes an update on the Federal animal cruelty legislation and a report on the opening of the new Teaching Bird Aviary at the AVC (funded through the SJDAWC Student Project Fund).

Please visit our website at upei.ca/awc to find out about upcoming events at the Centre, and for information on all projects funded to date, associated publications and presentations, and animal welfare resources at the UPEI library.

ACook

Dr. Michael Cockram Appointed Chair in Animal Welfare



The Atlantic Veterinary College, University of PEI, is pleased to announce the appointment of Michael Cockram, BVetMed, MRCVS, PhD, to the Chair in Animal Welfare. Dr. Cockram has been at the Royal (Dick) School of Veterinary Studies, University of Edinburgh, since 1985, where he is currently Senior Lecturer in Animal Welfare. During that time, he has developed an active animal welfare research programme of international repute, and has designed, organized and taught undergraduate and postgraduate courses in animal welfare.

Dr. Cockram's main area of research has been in the field of farm- and food-animal welfare and, in particular, the welfare implications of transportation and pre-slaughter handling. He has used various techniques to assess animal welfare and anticipates that they can also be applied to the study of welfare issues in non-farmed animals, including companion animals, horses and wildlife. Dr. Cockram has published numerous scientific papers and has produced both training videos and electronic learning web pages. He is experienced in communicating the practical results of his animal welfare research to a wide audience.

Dr. Cockram has wide-ranging experience of collaborative research and looks forward to working with researchers at AVC and at other schools, universities and institutes in the region and nationally, as well as continuing his international collaborations. We look forward very much to welcoming Dr. Cockram, his wife and their two children to Atlantic Canada in August 2007.



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PROJECTS FUNDED—2007

Investigation of a blood-borne parasite in wild red foxes and in dogs with anemia on PEI

B Horney, P Foley, S McBurney, K Tefft,
A Birkenheuer

This project is designed to study a parasite (*Theileria annae*) that infects red blood cells and was recently discovered in foxes on PEI. The project will also look at a possible association between infection with this parasite and anemia (decreased red blood cells) in Island dogs. *T. annae* is similar to another red cell parasite (*Babesia gibsoni*) which has been identified as a cause of anemia in dogs in many parts of the United States and in the rest of the world. Infection with babesial parasites is somewhat like malaria in people, and causes anemia in animals in areas where it is common. *T. annae*, specifically, is associated with anemia in dogs in Spain.

Although foxes are considered a significant reservoir for *T. annae* in the wild, it is not known if *T. annae* causes disease in foxes. This parasite has not been reported as a cause of anemia in dogs in North America. Dr. Horney will investigate how common this parasite is in wild foxes, whether infected foxes show any related red blood cell disease and whether the parasite might be found in Island dogs with anemia. If there is found to be a significant association between anemia in dogs and infection with this parasite, it will help with better understanding and treatment of anemia in dogs in the future. This project will also increase knowledge about wild fox health.

Are Clostridium difficile and methicillin-resistant Staphylococcus aureus present in horses admitted to the AVC Teaching Hospital?

J McClure

Clostridium difficile and methicillin-resistant *Staphylococcus aureus* (MRSA) are two bacteria that are major causes of hospital-acquired infections in people in North America and around the world. *C. difficile* is the major cause of antimicrobial-associated diarrhea in hospitalized patients, while MRSA is the most common cause of hospital-associated infections. In the last decade, both of these organisms have been seen with increasing frequency in horses and other companion animals,

and may represent a significant threat to their health and that of the people who handle them. The status of these two important disease-causing bacteria in the Atlantic provinces is unknown. It is essential to know about the occurrence of these bacteria in horses admitted to the Veterinary Teaching Hospital in order to develop sound diagnostic and treatment plans for horses suspected of suffering from infections caused by these two organisms. Furthermore, this information is important in establishing biosecurity protocols to reduce the spread of these pathogens to other horses as well as people in contact with them.

Through this project, horses that are admitted to the AVC Teaching Hospital will be screened for *C. difficile* and *S. aureus* (including MRSA) when they are admitted and discharged, through a simple swabbing procedure. Any horses that develop diarrhea or a wound infection during hospitalization will be tested for these organisms so that appropriate treatment can be started. Horses that are found to be carrying MRSA will be treated in an attempt to decolonize them. Additionally, Dr. McClure will look for any common factors in the records of any horse found to be carrying either organism, to see if there are factors that increase the risk that a horse will be a carrier.

Skeletal muscle as a source of bone and cartilage cells to improve healing in the horse

L McDuffee

Musculoskeletal injuries (particularly injuries to bone and cartilage) frequently cause the end of a horse's athletic career and possibly even the end of the horse's life. This may happen either because the horse is destroyed when it cannot continue as an athlete, or because a fracture is repaired and the repair breaks down or the horse develops laminitis or another serious complication. Both bone and cartilage heal very slowly, which means lengthy recovery time after injury and/or surgery and more time for complications to occur.

A great deal of research has focused on improving bone and cartilage healing in humans. Surgeons are using bone and cartilage cells from a donor site that are grown (expanded) in cell culture and

then transplanted to the site of injury. This “cell-based tissue engineering” is showing much promise in the treatment of musculoskeletal problems in people. Researchers at Dr. McDuffee’s Comparative Orthopedic Research Laboratory at AVC and at other laboratories are looking at bone and cartilage tissue engineering for treatment of musculoskeletal injuries in horses. One critical element of cell-based tissue engineering is to identify an ideal donor source for the cells.

The purpose of this research project is to determine if equine skeletal muscle can be a donor source for skeletal stem cells, which have the ability to become many different types of skeletal tissue (tendon, ligament, bone, cartilage) depending on the environment into which they are transplanted. Dr. McDuffee’s lab has much experience with isolation and differentiation of bone stem cells from a variety of equine donor tissues, but each has particular limitations. Dr. McDuffee proposes that equine skeletal muscle will have advantages over other donor tissues, in that it is abundant in horses of all ages and easily obtainable, similar to a muscle biopsy requiring only local anesthetic. Dr. McDuffee has already shown in a pilot study that there is a high yield of stem cells from small amounts of skeletal muscle tissue, and that these can differentiate into early bone and cartilage cells. If this study confirms the ability to use equine skeletal muscle as a donor source of skeletal stem cells, this will be a breakthrough in the ability to promote healing of bone and cartilage injuries in horses.

The effect of dietary selenium supplementation in mares and their foals

J Wichtel, F Markham, J McClure, M McNiven, M Wichtel, J Krause

Selenium (Se) is a trace element that is essential in the diet of horses. Se deficiency is a serious problem in many parts of North America, mainly due to soil deficiency, which results in low Se concentrations in feedstuffs grown in these soils. Foals are especially susceptible to Se deficiency, which can be seen clinically as white muscle disease and also is associated with decreased immune function in many species. In foals, septicemia (blood infection) as a result of inadequate immunity is common and often fatal.

In previous work funded by the SJDAWC, Drs. J Wichtel and T Muirhead have shown that many mares have deficient levels of Se, resulting in Se deficiency in their foals. This project will look at the effect of supplementing with Se the diets of mares to determine if this will increase Se levels in the mares’ blood, colostrum, milk and, consequently, in the blood of their foals. The investigators will also evaluate measures of the foals’ immune response and compare the effectiveness of supplementation with organic and inorganic Se. The goal is to correct Se deficiency in mares and foals by the most effective and practical means, and thereby improve preventive health care.

Marine wildlife rehabilitation

P-Y Daoust, H Gelens

Marine mammals and birds such as harp and harbour seals, blue herons, northern gannets and common loons are often brought to AVC for veterinary care because of injury, disease or (with newborns) abandonment. The treatment and rehabilitation of these animals presents a challenge because of their special diet and environmental needs. AVC faculty and staff also respond to emergency calls regarding live strandings of seals, white-sided dolphins and pilot whales, some of whom receive medical treatment in an attempt to lessen the stress and shock associated with stranding. Sometimes humane euthanasia is the best option for these animals.

This project has been funded since 1999 to provide proper veterinary care to injured, diseased or starving marine animals. The objectives of this year’s project are to maintain, and improve upon, the level of care provided to marine mammals and birds presented to the AVC Teaching Hospital and to animals stranded on the shores of PEI. This includes provision of adequate holding facilities and diet, medical treatment (including relevant laboratory tests) and euthanasia if necessary. The increased knowledge and experience that faculty, students and staff gain through the ongoing work in rehabilitation and humane care enables improved care of other marine animals.

AVC humane dog training program

N Guy, E Cawthorn

Following upon the continued success of the *AVC humane dog training program* (funded since 2001), the current proposal aims to build on the established methods developed in previous years. Veterinary students with an interest in shelter issues and dog training, and with additional training in operant conditioning, will be employed to work full-time at the shelter through the summer months and part-time in the fall and winter. Their responsibilities will be primarily for the social enrichment and training, through positive methods, of dogs on the adoption floor. Secondary, but highly significant, responsibilities will include interacting with and educating potential adopters and other visitors, providing a post-adoption resource for new owners and assisting the shelter manager in the evaluation and management of specifically identified dogs on the receiving floor. They will also respond to inquiries regarding behaviour problems in pets previously adopted from the shelter. Without the *AVC humane dog training program*, the PEI Humane Society would be unable to provide these important services due to a lack of adequate funding and personnel. The activities of veterinary student trainers within the shelter will directly benefit the dogs with which they interact, will help prepare potential owners for the adoption process and will increase the basic hands-on knowledge regarding shelter issues and animal welfare among the AVC student population.

UPCOMING CONFERENCE

Equine Welfare: In Practice
September 21 – 22, 2007



equine welfare with presentations on the following:

The third annual “Animal Welfare: In Practice” conference will be held at the Atlantic Veterinary College in September, co-hosted by the SJDAWC and the AVC Humane Ethics Club, with generous additional support from the Animal Welfare Foundation of Canada. This year’s conference will focus on

Friday evening, September 21

- ***The Unwanted Horse Coalition***—Dr. Scott Palmer, equine surgeon and Director, Equine Veterinary Clinic, Clarksburg, NJ; past president (2005) American Association of Equine Practitioners (AAEP).

Dr. Palmer will give the Friday evening talk as the SJDAWC’s 2007 Invited Lecture in Animal Welfare. This talk will be open to the public at no charge.

Saturday, September 22

Morning Programme

- ***Equine Anesthesia and Analgesia***—Dr. Kip Lemke, Anesthesiology, AVC
- ***Guidelines for Equine Rescue Facilities***—Dr. Scott Palmer
- ***Advances in Equine Rehabilitation***—Kirsten Johnston, Kentucky Equine Sports Medicine and Rehabilitation Center
- ***Equine Transportation, Proposed Regulatory Changes and International Transport***—Dr. Nicole Cormier, Canadian Food Inspection Agency, and Dr. Sharon Cregier

Afternoon Programme—Operant Conditioning in Horses (including demonstration)

- ***Moving Forward to Improve the Welfare of Horses***—Dr. Norma Guy, AVC Clinical Behaviour Service
- ***Building in the Motivation***—Heather Logan, Cloverfield Animal Behaviour Services, Brookfield, Nova Scotia; and Pawsitive Directions, Nova Institution Federal Prison for Women

To register for the conference, or for more information, please see upei.ca/animalwelfareinpractice/ or upei.ca/awc.

OTHER NEWS

Report: Canada’s Beluga Whales—Hunted, Poisoned, Unprotected

The Canadian Marine Environment Protection Society (CMEPS) has recently produced a very informative and well-illustrated report that will engage students, educators and all those interested in the current situation of beluga whales in Canada. The report may be obtained from info@cmepps.org.

Update on Federal Animal Cruelty Legislation

On April 25th, 2007, Bill S-213 passed Second Reading in the House of Commons and was referred to the Standing Committee on Justice and Human Rights, which is expected to hold hearings on the legislation in the fall. Bill S-213 was already passed by the Senate in December 2006. This private member's bill, tabled by Senator John Bryden, would increase penalties for killing or harming animals but does not address serious flaws in the current legislation.

There are many problems with Bill S-213:

1. Bill S-213 maintains the outdated and confusing language of the current legislation, which is largely unchanged since it was enacted in 1892.
2. The Bill maintains the loophole of “willful neglect.” The onerous burden for the Crown to prove willful neglect, i.e., that a person *intended* to neglect their animals, makes it extremely difficult to lay charges in cases of animal neglect, even where dozens of animals have been starved to death.
3. S-213 maintains the animal cruelty provisions in the property section of the Criminal Code.
4. S-213 protects different types of animals differently — i.e., cattle are in a different section than other animals. Crimes against cattle are indictable offences, whereas all other offences are summary offences.

S-213 is different from private member's Bill C-373 (Mark Holland). C-373 is the most recent version of legislation that has been carefully crafted over many years. By moving the animal cruelty provisions out of the property section of the Criminal Code to its own section “Cruelty to Animals,” C-373 would recognize that animals are sentient and feeling creatures worthy of protection for their own sake. C-373 would replace the problematic “willful neglect” with “negligently failing to provide suitable and adequate ... care,” and would include a definition of “negligently” as “departing markedly from the standard of care that a reasonable person would use.” C-373 would also make it an offence to train an animal to fight, and receive money for animal fighting and training (activities often

associated with organized crime); would define what an animal is; and would increase the penalties for convicted offenders.

Bill C-373 strikes an appropriate balance in addressing cruelty to animals as a crime of violence (as opposed to property crime) while, at the same time, making it clear that lawful and humane practices that are regulated or authorized by federal or provincial legislation or applicable codes of practice, such as normal agricultural practices, hunting, fishing, trapping, and animal research, will not be affected. C-373 also affirms traditional Aboriginal hunting and fishing rights.

The bottom line is that increasing penalties will not make any difference if the new legislation does not also address the flaws in the current legislation that make it very difficult to successfully prosecute offenders. Organizations that support Bill C-373, including the Canadian Veterinary Medical Association and the Canadian Federation of Humane Societies, will continue to oppose Bill S-213. For more information, go to cfhs.ca or see the text of the CVMA submission to the Senate Committee hearings (December 4, 2006) at canadianveterinarians.net/animal-issues.aspx

SPONSORS

The Centre has recently received renewed funding for the seventh six-month phase of the *Pegasus feral cat neutering programme*. We are grateful to the Pegasus Family Foundation, through the Silicon Valley Community Foundation, for this continued support. As well, the Centre is pleased to acknowledge generous support from Mr. David Madren, and we also thank those pet owners who have made donations *in memoriam*.

As always, we most gratefully acknowledge the ongoing financial support of the Friends of the Christofor Foundation, without which the SJDAWC would not exist.

Opening of the Teaching Bird Aviary

The Teaching Bird Aviary project was funded by the SJDAWC Student Project Fund. Below is an excerpt from remarks by project leader Rachel Lee, AVC 2007, at the Grand Opening on May 4, 2007.

The Teaching Bird Aviary Project was conceived March 2005 by the Wildlife and Exotics Club (SCAAZV/SCAAWV) at the Atlantic Veterinary College. Members of the club designed a two-sided walk-in aviary that could be placed in the “bird room” of the north barn to house the two species of teaching birds currently residing there, and replace the current caging.

The objectives of the Teaching Bird Aviary Project were two-fold: to provide the teaching birds with an enriched living environment and to create a space large enough to house additional birds with the intent to



Cockatiels in former cage housing

increase the size of the colony. These species of parrot are extremely social and a larger colony would alleviate some of the stresses of their captive lives. The size of the new aviary can support many more animals, and ultimately the flock size will be increased to 20-30 budgies and 10-15 cockatiels.

The aviary was manufactured by LFS Sport Netting, Inc. and hung with the help of Chris McQuaid, who also oversaw the building and installation of perching. The aviary was designed and constructed specifically to conform to the requirements of a research facility. All components can be

washed and disinfected with ease, and the structure can be easily taken down and moved if necessary. Future additions to the aviary furniture will include a birdbath and nest box for each side.

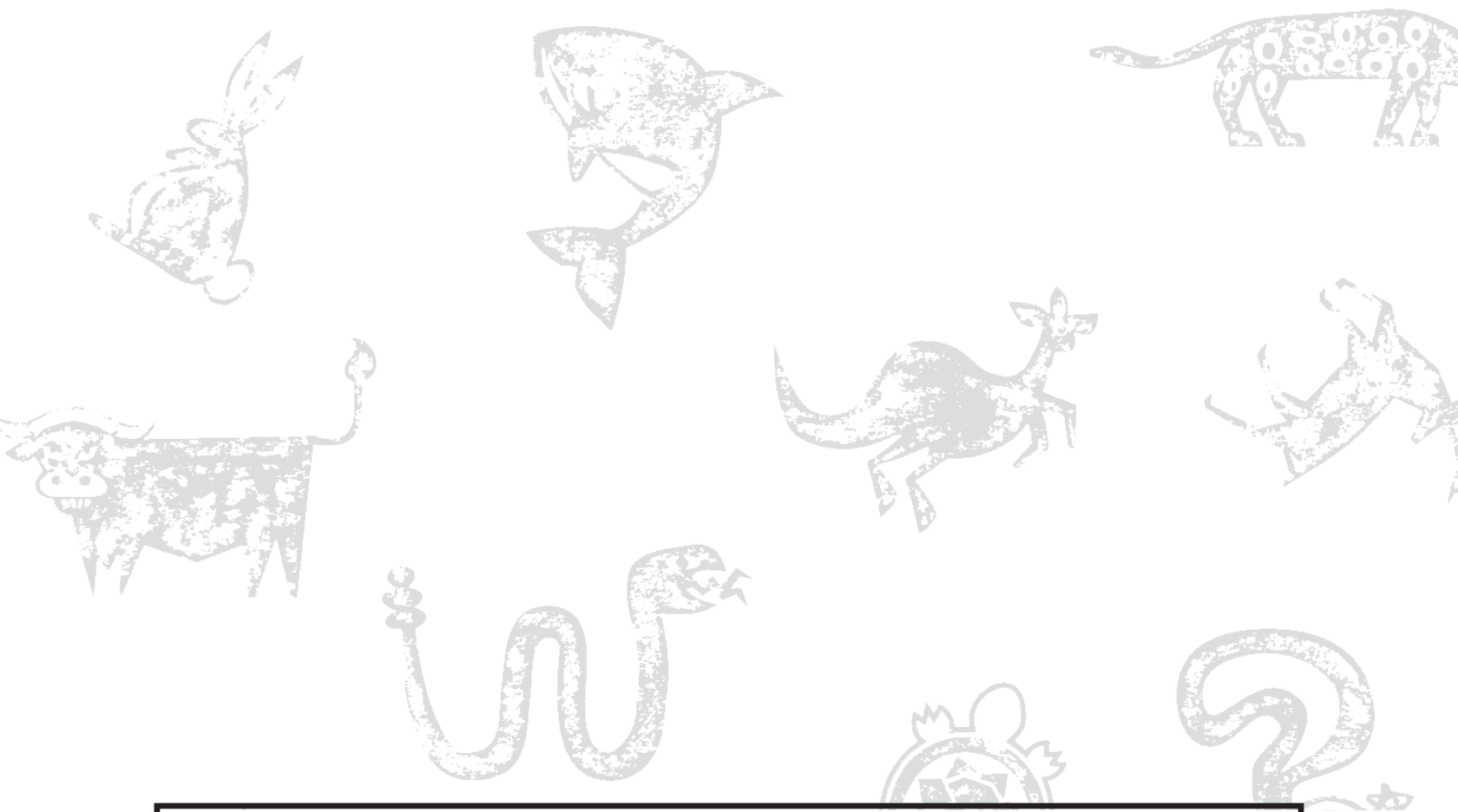
The birds moved into the aviary at the end of September 2006 and have acclimated well to their new home. The room provides an area for students (in small groups) to learn management and handling skills, as well as an area for training and physical examination. The birds benefit from a much larger living space, with increased environmental enrichment from both their housing and interaction with students, and space for future expansion of the colony.



Rachel Lee in front of the new aviary

The aviary is a testament to all that may be accomplished by a small group of dedicated students who persevered to change the things they could. I would like to thank the SJDAWC for financial support of this project and Dr. Sally Walshaw and Chris McQuaid for helping to make it a reality. I would also like to thank my parents, who helped me complete the installation of the aviary during their vacation on PEI in 2006.

Rachel Lee, DVM
AVC 2007



Help animals by supporting the Sir James Dunn Animal Welfare Centre

We welcome the generosity of animal welfare supporters and friends of the Atlantic Veterinary College. Donations or planned gifts in the name of a special animal companion, friend, or family member can be a fitting and lasting tribute that will benefit animals for generations to come. Donors may choose whether a gift will be used for the direct benefit of animals in the community, to support research projects, or for other priorities of the Centre. For more information on ways that you can support the work of the Centre and the Atlantic Veterinary College, please contact Rosemary O'Malley-Keyes, Major Gifts Officer, at (902)894-2865 or omalleykeyes@upei.ca.

MANDATE

The Sir James Dunn Animal Welfare Centre exists to promote animal health and well-being in the broadest sense.

Objectives:

- 1) The Centre promotes research projects and service activities where there is clear potential for tangible benefits to animals.
- 2) The Centre serves as a resource centre to compile, generate, and disseminate information relevant to the well-being of animals.
- 3) The Centre strives to raise the awareness of the public and the veterinary profession on broad questions of animal welfare and animal use, and to provide accurate, scientifically based information on these questions.

The Sir James Dunn Animal Welfare Centre gratefully acknowledges the continued support of the Friends of the Christofo Foundation.