



CANADIAN  
**WILDLIFE HEALTH**  
COOPERATIVE

**CREATING A WORLD  
THAT IS SAFE AND SUSTAINABLE  
FOR WILDLIFE AND SOCIETY**



INNOVATION THROUGH  
COLLABORATION

CWHC Report to Host Institutions



DR. TRENT BOLLINGER, REGIONAL DIRECTOR OF CWHC WESTERN/NORTHERN AND FACULTY MEMBER OF THE WESTERN COLLEGE OF VETERINARY MEDICINE USING RADIO TELEMETRY TO LOCATE COLLARED DEER FOR CHRONIC WASTING DISEASE RESEARCH.

# EXECUTIVE SUMMARY

The CWHC is Canada's first and only national wildlife health program. It is a shared success story that positions our host institutions as national and global leaders in wild animal health. It fosters partnerships and collaborations among our host institutions and continues to be one of the few harmonized programs shared by the veterinary colleges. This partnership creates numerous benefits to Canadians, partner agencies and government sponsors and enhances educational and research opportunities. The linkages and interactions created through the CWHC strengthen ties and increase the profile of our host institutions with regional and national stakeholders.

The CWHC supports strategic priorities of our host institutions by contributing to societal health and well-being, addressing food safety and food security, investigating emerging disease issues and their management, providing assurances to agriculture and the bio-economy, developing adaptations strategies for wild animal health and enhancing training and development of animal health professionals. CWHC activities provide novel teaching and educational opportunities and leverage research funds of tens of millions of dollars to address health issues at the human, animal and environment interface. Our communications infrastructure and network advocates for the role of wildlife veterinary medicine while providing profile to partners and wild animal health issues.

The success of the CWHC has resulted in growing demands for its services and expertise. The challenging fiscal environment has necessitated strategic planning and innovations in our management to continue to provide a world-class program in an era of shrinking resources. Combined with these challenges are growing threats to human and wild animal health associated with unprecedented social and environmental changes. Growing social and governmental expectations for healthy environments will undoubtedly increase demands for highly qualified wildlife health professionals. In the face of these demands and pressures is the need to capitalize on opportunities, adapt to growing and changing needs while achieving long-term sustainability.

## The purpose of this report is:

- To provide a shared understanding of the co-benefits of the CWHC as a model for wildlife health training, research and service delivery.
- To identify strategic priorities shared between the host institutes and the CWHC and means to address those priorities.
- To anticipate and respond to current as well as future challenges and opportunities.



## KEY MESSAGES

- The CWHC is the longest running, most impactful pan-veterinary college initiative in Canada.
- The CWHC positions its host institutions at the forefront of wildlife health, linking them to a cohesive and internationally renowned program.
- CWHC programs enable educational and research opportunities, augment host institution programs and profile while leveraging new opportunities and resources.
- Host institution contributions create a cost-effective and innovative independent science network unrivaled by other collaborations across animal health centres in Canada.
- Growing expectations and demands for our expertise and services at a time of fiscal restraint is creating new challenges that are being addressed by strategic planning and partner engagement.

# BACKGROUND

## KEY MESSAGES

- The CWHC’s mission aligns closely with strategic priorities shared across our host institutions.
- Our reputation as an innovative public management success story and a unique model for science procurement and partnership could not be achieved or maintained without the gracious support of our host institutions.
- Our decentralized model ensures both national and local connections across the wildlife, public health and agriculture sectors.
- A cost effective, networked approach creates synergies and enables vital research and services that position host institutions at the forefront of wildlife health and One Health and the CWHC as a trustworthy knowledge broker.

## OUR MISSION

*“TO PROMOTE AND PROTECT THE HEALTH OF WILDLIFE AND CANADIANS THROUGH LEADERSHIP, PARTNERSHIP, INVESTIGATION, AND ACTION.”*

## OUR VISION

*“A WORLD THAT IS SAFE AND SUSTAINABLE FOR WILDLIFE AND SOCIETY.”*

CWHC programs identify and assess threats to conservation, public health and economic activities. We provide evidence and advice to support policy planning and management and enable claims of a safe and healthy environment for people and wild animals. These activities ensure that Canada meets international obligations and expectations, supports educational, cultural and economic opportunities, and assists in safeguarding wildlife and public health. The CWHC contributes to sustaining and promoting these values by providing assurances, preparedness and response, including the development of human capacity through educational and training programs.

*“The CWHC has and continues to serve not only as a model for developing national programs around the world, but also to directly improve the abilities of international colleagues to meet the growing demand for information and guidance related to wildlife health”*

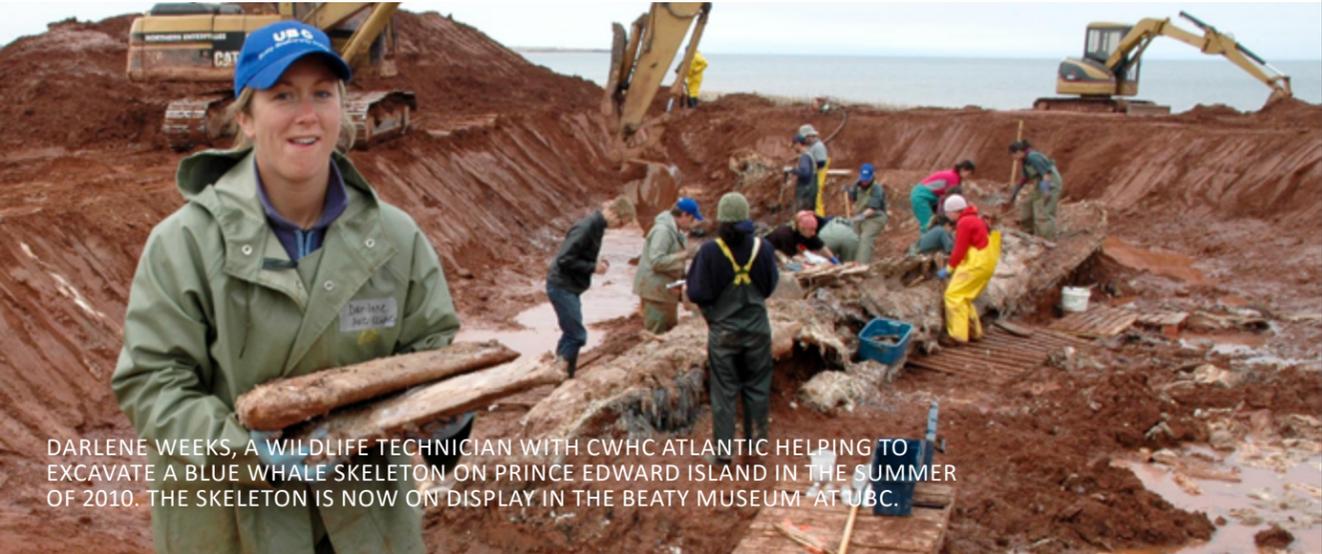
WILLIAM B. KARESH  
Executive Vice President EcoHealth Alliance/ President of the OIE Working Group on Wildlife

## OUR HISTORY

The CWHC was established and continues to reside firmly on the human-animal-environment interface and has been a leader in “One Health” for over two decades. Established in 1992, the CWHC arose out of a need for a coordinated approach to wildlife health and disease in Canada to inform social decisions in multiple domains, including wildlife conservation, environment, fisheries, public health, food safety and security and the economic activities associated with all of these. First formed as a cooperative among faculty and staff at the Western College of Veterinary Medicine (WCVM), the Ontario Veterinary College (OVC) and Faculté de médecine vétérinaire (FMV), the CWHC grew to include the Atlantic Veterinary College (AVC), the University of Calgary Faculty of Veterinary Medicine (UCVM) and the British Columbia Animal Health Centre (BCAHC).

The CWHC soon inspired the interest and trust of its government and veterinary college sponsors. Teaching and research material flowed into each veterinary college and expertise in wildlife health was added to the staff of each. The growing network anchored within the veterinary colleges paid large dividends to the sponsoring government agencies. Reliable information about wildlife health was provided when or even before it was needed. These agencies were alerted to and able to prepare for emerging issues, the number and scale of which increased through the 1990s and the early 21st Century. Examples of these issues include avian botulism, hantavirus, West Nile virus, chronic wasting disease, avian influenza, white-nose syndrome, distribution and impacts of pollution, and the growing threat of climate change. Through the CWHC, its hosts provide leadership on wildlife health and fill a critical public service gap to address an increasingly important area for which no single government agency has a clear comprehensive responsibility.

The CWHC is an internationally unique model for a national wildlife health program. It is an independent science network positioned outside of government and benefiting from the autonomy, expertise and reputations of its hosts and network partners. Governments and industry now depend on this Cooperative to address national and international obligations and expectations for wildlife health.



DARLENE WEEKS, A WILDLIFE TECHNICIAN WITH CWHC ATLANTIC HELPING TO EXCAVATE A BLUE WHALE SKELETON ON PRINCE EDWARD ISLAND IN THE SUMMER OF 2010. THE SKELETON IS NOW ON DISPLAY IN THE BEATY MUSEUM AT UBC.

## CASE STUDY

### 5 year snap-shot of CWHC activities

Over the course of its 23 year history the CWHC has secured tens of millions in research revenues for our host institutions, provided valued services to dozens of partners and contributed to the training of numerous highly qualified personnel. In the past 5 years the CWHC has:

- employed an average of approximately 30 externally funded staff annually
- secured close to \$16M in revenues and contributed over \$2M to University overheads
- enabled 306 scientific publications and 27 technical reports
- assisted in the training of 30-40 highly qualified personnel annually
- provided over 32,000 teaching cases
- undertaken 30-40 special projects annually in support of partners and stakeholders

# GOVERNANCE AND SUPPORT

## FINANCE AND ADMINISTRATION

Federal government investment in CWHC core programs is provided by 4 main agencies (PHAC, CFIA, Parks Canada and Environment Canada). It represents approximately 40% of total core costs. Provinces, territories, universities, in particular the University of Calgary, and NGO partners provide a further 30% of core operating funds. The remaining support is realized through in-kind contributions from host institutions in the form of infrastructure, equipment, administration and staff support. Additionally, CWHC faculty and staff serving as regional directors are allowed 15-20% of their professional time to serve in that capacity. Some hosts, such as the University of Calgary and the BC Animal Health Centre, also offset time for diagnosticians to contribute to the surveillance functions of the CWHC.

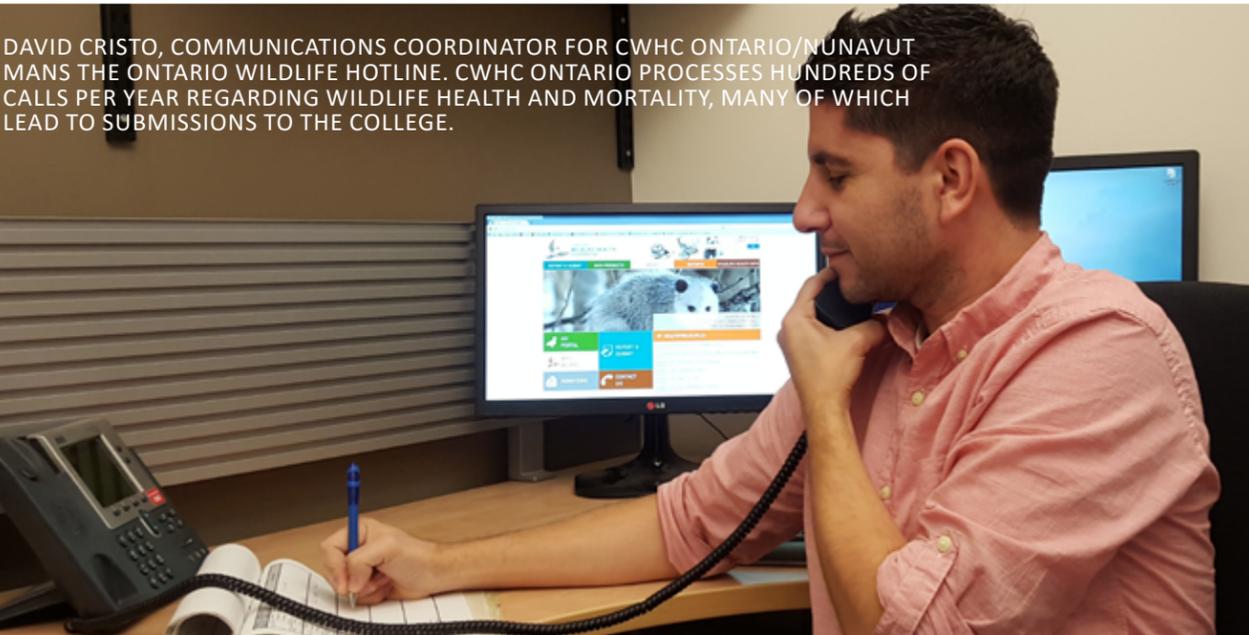
The CWHC model provides significant cost efficiencies. Contributions from federal, provincial/territorial and civil society partners and in-kind support from CWHC regional host institutions ensures no single agency bears the full burden of CWHC support. The investment of any one agency is leveraged by the capacity, infrastructure and expertise secured through the total investment of all partners. Each funder receives more services than their investment alone could generate, thus allowing the CWHC to meet a wide spectrum of needs.

Partners also contribute to time-limited or targeted projects for special topics or concerns (e.g. avian influenza). The costs of these programs are minimized due to the pre-existence of the CWHC network, staffing, infrastructure and expertise that is developed through delivery of the core program. Investment in ongoing core activities not only speeds response to emergency but also creates efficiencies.

## CASE STUDY

### Conservation

Discovery, tracking, and coordination are central to CWHC activities and programs. Bat white-nose syndrome (WNS) exemplifies these roles. This fungal disease has devastated North American bat populations and threatens the vital ecological (and economic) role that bats play. WNS was first diagnosed in Canada by the CWHC Ontario/Nunavut region at the Ontario Veterinary College through general scanning surveillance in the winter of 2009/10. The CWHC continues to lead the surveillance and diagnosis of this disease in Canada in a response that has grown to include targeted research programs at the WCVM and elsewhere and a coordinated national approach. Working with federal/provincial/territorial partners, university researchers, NGO's and the US Fish and Wildlife Service, the CWHC has helped conduct workshops and develop a National WNS Management Plan. With funding from Environment Canada, the CWHC National Office was able to hire and place a full-time designated WNS coordinator at the Atlantic Veterinary College/CWHC Atlantic regional centre, recognized for their leading role in the management of this disease.



DAVID CRISTO, COMMUNICATIONS COORDINATOR FOR CWHC ONTARIO/NUNAVUT MANS THE ONTARIO WILDLIFE HOTLINE. CWHC ONTARIO PROCESSES HUNDREDS OF CALLS PER YEAR REGARDING WILDLIFE HEALTH AND MORTALITY, MANY OF WHICH LEAD TO SUBMISSIONS TO THE COLLEGE.

A complete list of existing CWHC partners can be found at: [www.cwhc-rccsf.ca/partners.php](http://www.cwhc-rccsf.ca/partners.php)

Additional financial information can be found in our 2014/15 annual report: [www.cwhc-rccsf.ca/annual\\_reports.php](http://www.cwhc-rccsf.ca/annual_reports.php)

The CWHC National Office and the WCVM/U of S have the role of coordinating and providing leadership to the CWHC. This has the benefit of centralizing the administrative responsibilities of the centre and creating expertise and infrastructure dedicated to this function. Attention is given to the legal and administrative requirements of all of the CWHC host institutions, and the National Office liaises with university and college research and financial services to ensure continued operations while minimizing the demands on university personnel. Money transfers are achieved via a collaborative research agreement to which each of the Universities is a party, and managed to the extent able by CWHC funded personnel with college and university support.

## DECISION MAKING

The CWHC executive committee is comprised of senior representatives from the federal, provincial and territorial governments, Chief Veterinary Officers, the Council of Wildlife Directors, and the NGO and corporate communities. It serves as an advisory board, provides an ambassadorial function for the CWHC and provides strategic advice. The Dean of the WCVM represents the host institutions.

The CWHC management committee serves as a policy committee that establishes organizational approaches and processes for delivering on obligations and expectations. All regional directors (who are faculty or professional staff at host institutions) sit on this committee and function to make operational decision on the use of resources in each host institution and liaise with college and regional stakeholders to identify needs and provide profile. The executive director and national office director are the principle connections between the management and executive committees and serve to provide strategic leadership, implement plans and vision and oversee the delivery of programs at the national level.

DR. GUYLAINE SÉGUIN, THE FIRST GRADUATE FROM THE WILDLIFE HEALTH MANAGEMENT TRAINING PROGRAM OFFERED BY CWHC QUÉBEC. DR. SÉGUIN IS CURRENTLY THE WILDLIFE VETERINARIAN FOR THE MINISTÈRE DES FORÊTS, DE LA FAUNE ET DES PARCS.



# HOST INSTITUTIONS

## KEY MESSAGES

- The CWHC has leveraged tens of millions of dollars in research and service funding. We provide a return on host in-kind investment through direct financial inputs from overhead on funds secured for CWHC activities. External funds secured in the past 5 years have amounted to approximately \$16M and close to \$2.5M has been contributed to University overhead.
- The infrastructure and expertise employed by the CWHC enables faculty to accelerate, leverage and capitalize on research opportunities and increases their competitiveness for external support
- CWHC leverages expertise in the form of highly qualified staff and resources augmenting college budgets.
- The caseload generated by the CWHC ensures all veterinary colleges in Canada have material to support undergraduate and graduate training in wildlife health, keeping Canada positioned as a leader in wildlife health education. CWHC employees contribute to undergraduate education and secure approximately 6500 cases per year that contribute to education and research purposes.
- The CWHC positions host institutions as centres of excellences in wildlife health and One Health, thus enhancing their reputation and synergizing capacity to address strategic priorities of university and government agencies.

## THE VALUE OF BEING EMBEDDED IN OUR HOST INSTITUTIONS

Our host institution partners expect and receive significant returns on their investments in the CWHC in the form of enhancements to their academic programs: externally-supported research, a steady flow of valuable teaching material, and learning opportunities for undergraduate and graduate students, all derived directly from the CWHC.

Host institution strategic priorities share key themes including contributing to health and well-being, assuring secure societies and the development of highly qualified personnel. CWHC activities enable outcomes in each of these areas including the discovery, study and management of emerging diseases, assurances of (country) food safety, evidence of clean, safe and sustainable environments, continuing access to international trade and markets as well as the training of wildlife health professionals.

## SUPPORTING AND LEVERAGING RESEARCH AND CAPACITY

Since its inception in 1992 it is estimated that the CWHC has brought close to \$50 million in external funds to host institutions - a testament to the dynamism and success of the CWHC model, programs and personnel. These funds have been and continue to be used to build and deliver host institution programs and client services. It has been commonly seen that issues identified through CWHC scanning surveillance or problem

solving have generated new research opportunities for faculty and students, often in the form of CWHC “active” surveillance programs. CWHC infrastructure brings added value to the colleges and their programs; specialized equipment, including vehicles and servers. The CWHC health intelligence platform help ensure that the colleges, through the CWHC, can respond to animal health needs within the wildlife realm.

## DEVELOPING PROFILE AND REPUTATION

Prior to the formation of the CWHC, there was no pre-existing strong relationship between academic veterinary medicine and wildlife management in Canada. Five years were required between an initial proposal to Canada’s federal-provincial/territorial directors of wildlife in 1987 and the start of the CWHC programs. The launch in 1992 was supported by wildlife management agencies of all of the provinces and territories and Environment Canada. Shortly thereafter, the CWHC was recognized by Canada’s veterinary and public health services as highly relevant to their responsibilities and these agencies became CWHC supporters. The CFIA recognizes the CWHC as the mechanism through which Canada fulfills international animal health responsibilities and obligations. In 2007 the Government of Canada requested the CWHC to become a Collaborating Centre of the World Organisation for Animal Health (OIE) as a part of Canada’s contribution to this international body. The CWHC plays a key role for colleges with regional responsibilities. For WCVM and AVC, it is a tangible example of how the college addresses the shared needs of all of the provinces they serve.

The CWHC is a community of practice. Fostering this community and functioning as a connector among varying mandates and jurisdictions is a key activity of the CWHC and a valued service. CWHC has played a major role in coordinating national teams and programs (such as avian influenza and white-nose syndrome), facilitating new approaches (as with our climate change meeting in June of 2015) and ensuring people are connected across the country (as with our new associates policy). The CWHC network enables collaborative research and educational opportunities and serves as a hub bringing a diverse group of experts and decision makers together with the colleges at the centre.

Our dedicated communications tools, including an active presence on social media, websites, conferences and workshops, and informational materials serve to increase awareness of wildlife health issues as well as increase profile to the CWHC and our host institutions. The CWHC has dedicated staff and processes in place (regional reporters, associates committee) to inform and advocate, providing important expertise and information to partners, professionals, the media and the public.



DR. PADRAIG DUIGNAN, CWHC PATHOLOGIST AND MANI LEJEUNE, CWHC PARASITOLOGIST AT CWHC ALBERTA DEMONSTRATING PORPOISE NECROPSY TO UCVM DVM STUDENTS.

## CASE STUDY

### Health and well-being

Following the discovery of West Nile virus (WNV) in New York in 2001, Canada realized that a public health threat posed by the virus was potentially looming and urgently sought a method to track its emergence and spread within the country. The CWHC was uniquely positioned to both coordinate and conduct a surveillance program targeting dead wild corvids that provided early warning and aided in public health messaging. The Public Health Agency of Canada as well as provincial health ministries turned to the CWHC to organize such a program. Close to 61,000 birds later, \$5M in service and research funding, 21 scientific papers by CWHC representatives and numerous others by 3rd party researchers relying on the shared information, this program has served as a model of the services and research that are provided through the CWHC and continue to ensure that the veterinary colleges are considered at the forefront of providing this expertise.



# CWHC EDUCATION & RESEARCH LOGIC MODEL

## ISSUE STATEMENT

Growing demand for one-health expertise creates demand for wildlife health professionals and services.

## OBJECTIVE

To maintain CWHC host institutions at the forefront of wildlife health by ensuring CWHC services are sustainable.

## RATIONALES

- CWHC programs enable educational and research opportunities.
- Limited resources require evidence-based strategies for action & resource allocation.
- The CWHC network and regional, national, and international programs improve college programs and profile.

## ASSUMPTIONS

- A university-based national wildlife health program that is geographically represented is valued and required.
- Support is sustained at a sufficient level to meet goals.
- Partnerships between academic, federal/provincial/territorial and non-government organizations are essential for success and of inherent worth.

## INPUTS

### CWHC

- 25 full-time staff
- Equipment
- ~\$3M annual external funding
- 5000 - 6000 case materials per year

### Host Institutions

- 5 faculty at 15%
- Necropsy facilities
- Office space, utilities
- Administrative and staff support (2.5 FTE)

## ACTIVITIES

**Graduate student development;** teaching, training, supervision, projects and support.

**Product development** including educational curricula, course materials and training manuals.

**Continuing education** opportunities including seminars and workshops.

**Networking** and linking colleges together with external partners.

**Research** on pressing animal health issues.

**Advocacy & awareness** of wild animal health and welfare issues.

## OUTPUTS IN 2014/15

### Student Education Services

- 33 grad students
- Over \$100K in student support
- 600 course hours
- 5000-6000 number materials

### Research

- ~\$3 million
- 76 scientific publications

### Training & Development

- 31 conferences and presentations
- 30 informational products (manuals, fact sheets, etc)

### Information Products

- CWHC website
- Blog, social media
- Reports

## OUTCOMES ENABLED

Training and development of future wildlife health veterinarians and professionals.

Increased teaching opportunities and robustness to "one health" priorities.

Enhanced understanding of wild animal health among veterinarians, professionals, governments and the public.

Profile and awareness for colleges and universities among the media, the public and government partners/funders.

Greater collaboration and coordination among colleges.

Integrated system of services that is national in scope.

Enhanced inter-college and inter-agency resource sharing.

University and college strategic policy priorities identified and supported.



MARNIE ZIMMER, WILDLIFE BIOLOGIST AT CWHC WESTERN/NORTHERN IN THE SUMMER OF 2015 DURING LIVE WATERFOWL CAPTURE AND SAMPLING FOR AVIAN INFLUENZA TESTING.

# HOST INSTITUTIONS [cont.]

## HUMAN CAPACITY DEVELOPMENT

The growing demand for wildlife health capacity in the past decade will continue. Local, national and global changes are producing new challenges for wildlife health. Emerging infections, introduced diseases, climate change and pollution continue to impact conservation, public health and economies.

In response to these growing demands there is a need to invest in capacity development. Growth of knowledge, skills and experience in individuals is the foundation of our capacity development strategy.

The CWHC provides an established caseload and functionality to act as Canada's distributed wildlife health teaching hospital. One of the keys to effective veterinary education is an environment that allows independent problem solving and scholarly exploration. The CWHC provides the contacts, problems and expertise to supply the caseload needed to support undergraduate and graduate student learning needs. On average we examine 3000 to 4000 cases per year for pathological exam and an additional 2000-3000 animals per year for targeted surveillance across all regions in Canada. Population health cases, including risk assessments, field investigations and policy reviews, are an increasing part of our workload from which we produce unique graduate student experiences.

In 2014/15, the CWHC, through a combination of direct financial support, cases, projects, staff and faculty supervision, supported 35 different graduate students and contributed over 600 hours to teaching and various courses. In leveraging staff and resources in addition to and independent of college budgets the CWHC provides valuable expertise along the human/animal/environment interface. These same staff and resources augment and enable educational and research opportunities and contribute to fulfilling the strategic priorities of the colleges. The expertise that CWHC staff and associates bring to the colleges contributes to training and educational opportunities in the form of undergraduate rotations, specialized training and assistance such as necropsy training to student groups, graduate projects, and funding that comes with targeted CWHC programs. Additionally, residency and internship programs in UCVM and FMV are created through CWHC case load and expertise.

These education dividends - the creation of the next generation of wildlife health professionals and continuous research attention given to partner agency issues - are enabled by multiplying host institutional support with additional partner contributions.

A complete list of currently supported graduate students and their projects can be found on the CWHC website at [www.cwhc-rcsf.ca/gradstudents](http://www.cwhc-rcsf.ca/gradstudents).

## SHARED EXPERTISE

The CWHC benefits from access to experts within host institutions. Faculty and staff provide the knowledge and skills needed to generate reliable observations and evidence to identify emerging issues and attest to the status of wildlife health.

Support provided by the CWHC network and structure promotes faculty opportunities and wide ranging collaborations. Faculty directors have established staff with national programs and budgets that are associated with the position. CWHC-funded staff augments the expertise and skill sets within our host institutions, contributing to professional collaborations and augmenting teaching experiences. CWHC staff and associates are experts in their related fields and include wildlife health specialists and researchers, experts in population health and health intelligence, skilled educators and experienced policy advisors.

*"The Canadian Food Inspection Agency [CFIA] recognizes the Canadian Wildlife Health Cooperative [CWHC] as a key partner in the protection of animal health in Canada. The CWHC helps to support the CFIA in the delivery of their mandate through participation in the Canadian Animal Health Surveillance Network, an early warning animal disease surveillance system for threats to animal health, human health and the security of the food supply. The CWHC's focus on wildlife, for example surveillance data as it relates to avian influenza in wild migratory birds, is crucial to the CFIA."*

HARPREET KOCHHAR

CFIA – Chief Veterinary Officer for Canada



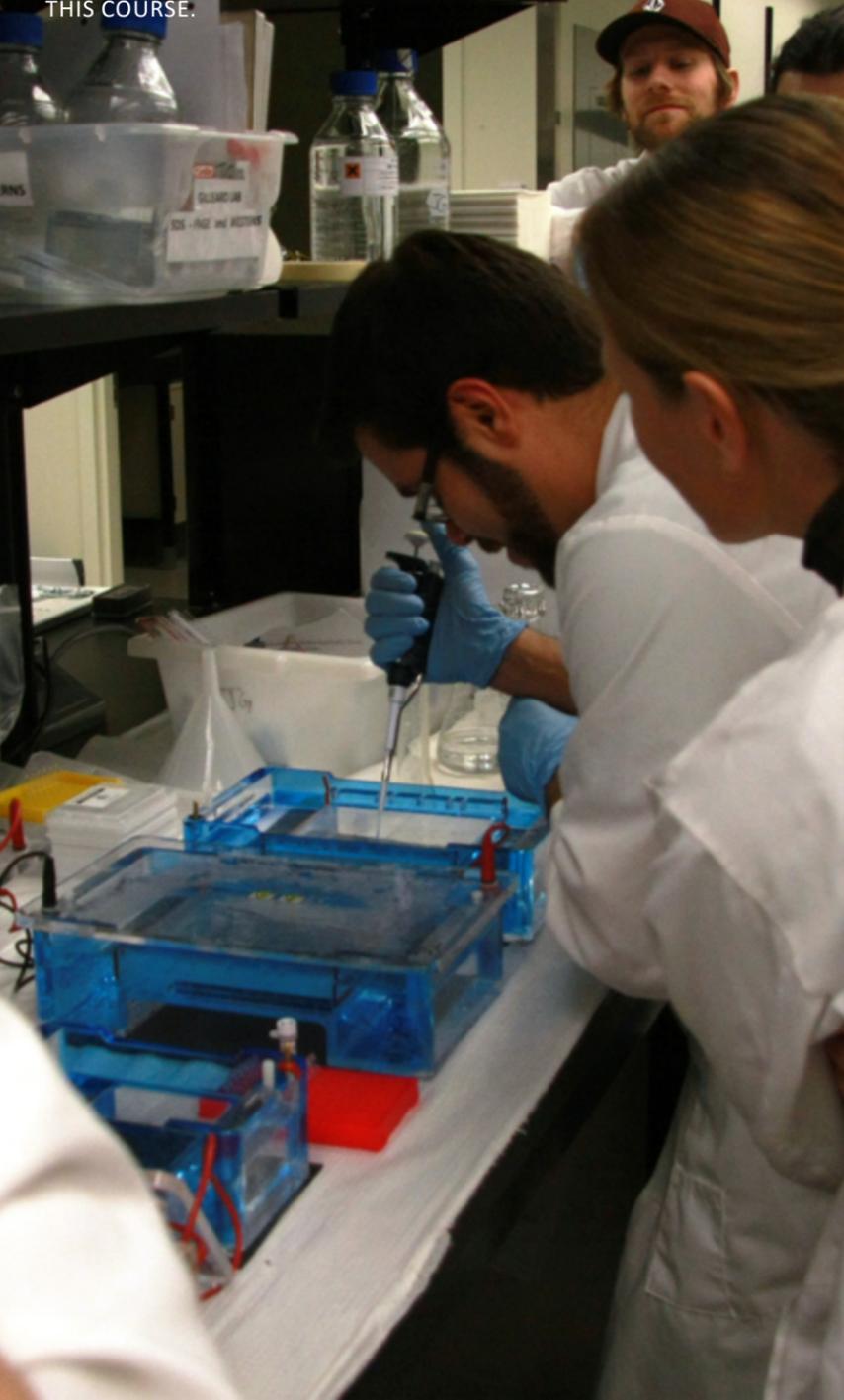
DR. SCOTT MCBURNEY, WILDLIFE PATHOLOGIST WITH CWHC ATLANTIC WAS FILMED AS PART OF A CBC STORY ABOUT BAT WHITE-NOSE SYNDROME. WORKING WITH HIM ARE FORMER CWHC RESIDENT HEATHER FENTON AND WILDLIFE TECHNICIAN JENNIFER ROMA.

## CASE STUDY

### Secure societies

The CWHC first proposed and conducted Canada's wild bird influenza survey in 2005. In the 10 years of operation this program has brought close to \$9M in revenue to our host institutions, examined over 60,000 specimens, produced over 30 publications and positioned the veterinary schools and the BC Animal Health Centre as essential service providers to multiple partners. Through this survey the BC regional centre of the CWHC, working with the local interagency team, was the first to discover a highly pathogenic strain of avian influenza in a wild bird in Canada. This program has also been successful in leveraging additional research projects including a Genome Canada project through our BC regional centre and another Genome Canada application that involves multiple host institutions.

GRADUATE STUDENT TRAINING ON MOLECULAR PARASITOLOGY IN VETM 690 DIRECTED STUDY COURSE IN PARASITOLOGY (2012). CWHC ALBERTA PERSONNEL CONTRIBUTED SUBSTANTIALLY IN DELIVERING THIS COURSE.



## TESTIMONIAL

In addition to being at the forefront of advancing our understanding of wildlife health issues across Canada, the Canadian Wildlife Health Cooperative plays a significant role in generating Canada's wildlife health professionals. CWHC and its members played a very prominent and critical role throughout my own educational experience, through their involvement in university curricula across Canada, by providing research and teaching opportunities in Canada and internationally, by integrating students into ongoing inter-agency research, surveillance, and management programs, and through their roles as supervisors and mentors, providing a constant source of inspiration, guidance, motivation, and support to those pursuing careers in wildlife and ecosystem health. I am proud to be a product of, and now a research associate, partner, and collaborator of this invaluable Cooperative, in our shared mission of promoting the health, safety, and sustainability of Canada's environment and wildlife for current and future generations.

**Catherine Soos** BSc, DVM, PhD  
Research Scientist, Wildlife Health Specialist  
Environment and Climate Change Canada (ECCC)

## CASE STUDY

### Emerging diseases

The CWHC, led by the Western and Northern regional centre at the WCVN, has been conducting surveillance and/or research of chronic wasting disease (CWD) since its first discovery in wild cervids in Saskatchewan in 1996. Working with provincial partners this surveillance has and continues to rely upon the core diagnostic program of the CWHC to detect new occurrences, approximately 50,000 deer have been tested by the CWHC. These discoveries have translated into numerous research and policy initiatives including the coordination of several workshops to bring experts and decision makers together to tackle this devastating disease and develop management and control strategies. The CWHC was the CWD theme leader for PrioNet Canada and was integral in ensuring that CWD in wildlife and some of our host institutions were included in this centre of excellence. In addition to millions in research funding these projects have directly contributed to the training of many highly qualified personnel and the management activities of partner agencies.



THE NEWEST MEMBER OF THE CWHC BC TEAM AT THE BC CENTRE FOR ANIMAL HEALTH, AVIAN PATHOLOGIST DR. ERIC PARENT LEADING A NECROPSY WORKSHOP ON BALD EAGLES.

## CASE STUDY

### Training and development

The CWHC model of partnership with Canadian veterinary colleges provides training opportunities for professionals in the field of wildlife health management. Examples of these opportunities are the Residency Training Program, a 3 year graduate program in Wildlife Health Management offered by CWHC Québec based at the Faculté de médecine vétérinaire of the Université de Montréal, and the one year UCVM internship program. Both of these programs provide graduate training that would not be possible without the resources generated by the activities of the CWHC. Trainees are exposed to wildlife mortality investigations and wildlife health evaluations, and through this process are trained in wildlife pathology, epidemiology and clinical science. Graduates from these programs are able to serve as wildlife health specialists for governmental and non-governmental agencies involved in wildlife conservation. These unique programs, which favor the involvement of veterinarians in a non-traditional field of practice, would not be possible without partnership with the CWHC.

*"Much of the success of the CWHC stems from ... it's strong but distributed ties to the provinces and university systems, serving to bridge cutting edge research and thinking from the academic community, the skills of a wide range of health professionals and the real world needs of managers, decision-makers and the public"*

**WILLIAM B. KARESH**  
Executive Vice President EcoHealth Alliance/ President of the OIE Working Group on Wildlife

# MANAGING FOR THE FUTURE

## KEY MESSAGES

- Recent CWHC advocacy for a national wildlife health program has significantly increased the profile of wildlife health in the federal government and Canadian Wildlife Directors Committee.
- Declining revenues over the past 10 years are threatening the sustainability of the CWHC and have necessitated significant reductions in human resources.
- The CWHC has catalyzed new federal discussions and partnerships aimed at remedying the current fiscal challenges and ensuring the CWHC is ready not only to address wildlife health training and services needs for today but also to create capacity to prepare the next generation to deal with tomorrows challenges.
- Changing and growing societal needs are likely to drive growing educational and training demands to meet these needs.
- Communications and processes to align CWHC activities with college strategic priorities are vital.
- Shared opportunities of mutual benefit require additional consideration.

## CHALLENGES

Despite the many successes of this collaborative effort, financial vulnerabilities exist and have adversely affected the CWHC: staffing has been reduced by over 25% in the last 5 years and cyclical and structural deficits create vulnerabilities and uncertainties. Increased expectations from partners in the absence of added investments have strained remaining staff and stretched abilities. While partially off-set by contributions to university overhead, our continued reliance on the in-kind support of our host institutions remains vital to our ongoing operations.

It is estimated that almost one third of the CWHC total budget derives from the in-kind contributions of the hosts; this includes faculty and staff time and the use of facilities and infrastructure. The benefits to the colleges and other partners that are enabled by the CWHC are heavily reliant upon this in-kind support, particularly that of the faculty and staff time dedicated to CWHC activities. While there are advantages and dividends accorded to faculty in their capacity as regional directors, there are also time commitments (estimated between 15-25% of their professional time) and in consideration of growing societal and partner demands, these commitments are likely to grow. These growing demands on regional directors will need to be met with new ways to recognize the contributions to the CWHC at host institutions.

## SOLUTIONS

The CWHC is actively exploring and developing external funding options to alleviate the reliance on in-kind contributions. Considerable effort has been made to safeguard and expand CWHC support, resulting in the development of business cases, funding rationales, and numerous presentations and discussions. These vulnerabilities, coupled with the growing challenges facing wildlife are also driving the development of

a wildlife health strategy, targeting new treasury board funds and new partners for the colleges through the CWHC. At the same time working to ensure that our ability to align with college strategic priorities and work collaboratively within the colleges to pursue shared opportunities requires additional focus and attention.

Stability and sustainability are also tied to ensuring functions and processes are maintained or developed to deal with succession issues, such as outgoing faculty directors and their suitable replacements. Faculty directors are in a position to significantly influence the fortunes of the CWHC and derived programs. Developing criteria and establishing a collaborative process with the colleges to respond to these changes is of importance moving forward.

## SUMMARY

The CWHC is a shared college success story providing vital services to host institutional partners and enabling unique opportunities for college faculty, staff and students.

The CWHC has become a trusted partner in wildlife health, being sought after to facilitate national programs, produce evidence needed to mount local responses, and provide expert advice and leadership on some of the most pressing and perplexing wildlife disease issues confronting Canada. In our breadth of effective collaboration, our wide range of programs and capacities, our trusted integration of university-based science with responsible authorities, our scientific integrity, our proactive leadership and our cost efficiency, the CWHC represents a national capacity in wildlife health protection and management that is unique in the world.

These achievements and the outcomes enabled by the CWHC have and continue to contribute with aligned college strategic priorities. Central to the CWHC program and partner expectations is providing assurances to societal health and well-being. This includes being at the forefront of the human-animal-environment interface, investigating emerging diseases and proactively leading to the transition to a health program that moves beyond risk and threats to better include resiliency, vulnerability, and recovery. CWHC activities contribute to the agriculture and bio-economy, search for and measure the impacts of climate change and work to develop adaptations strategies and provide assurances of water and (country) food safety. A cornerstone of our activities is providing training and development for wildlife health professionals. The CWHC strives to utilize our resources and programs to bring exposure to wildlife health issues and provide awareness to wildlife veterinary education and practice.

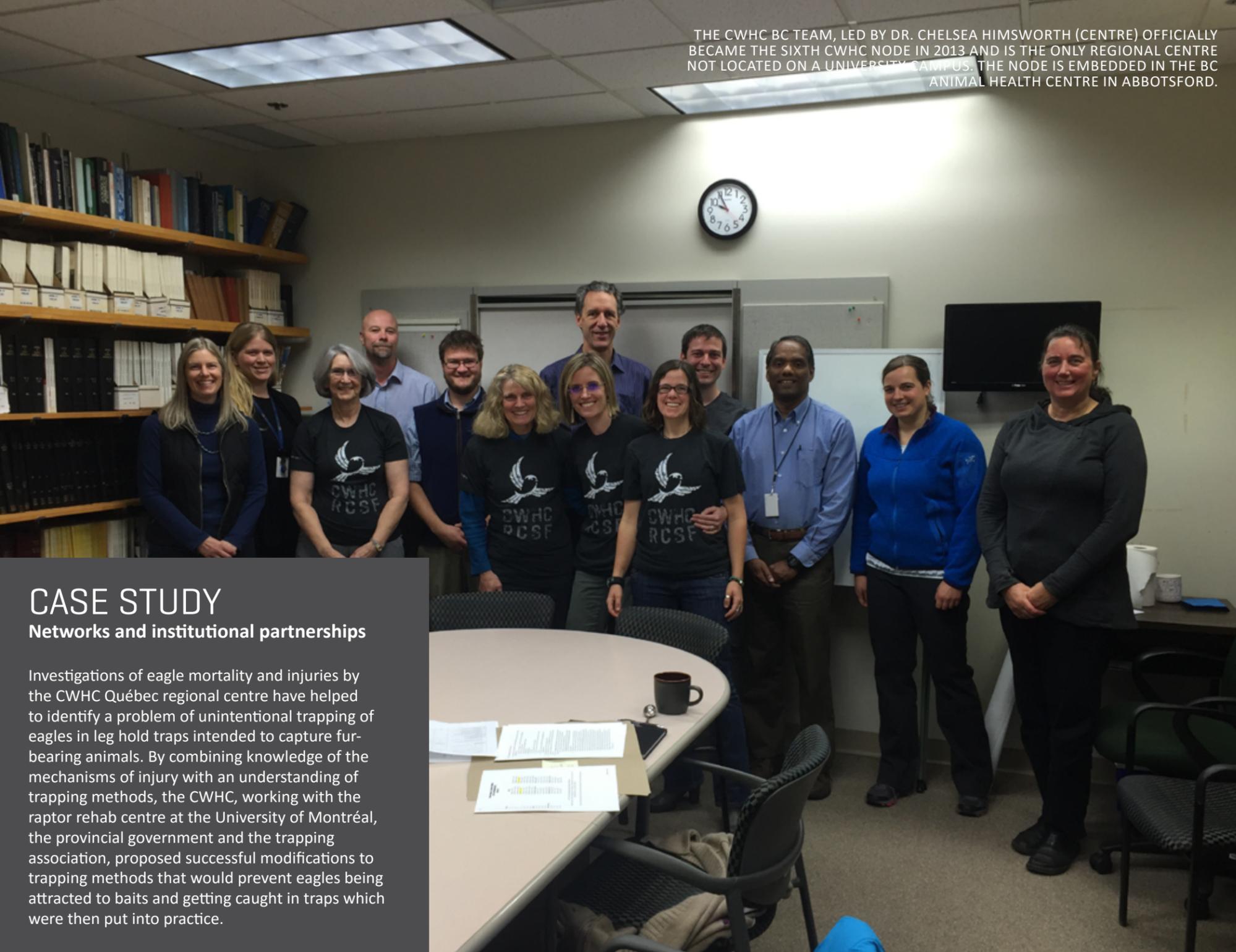


## CASE STUDY

### Training and development

The CWHC is involved in professional and faculty education and development. Our role as an OIE Collaborating Centre has provided opportunities for faculty to teach internationally and learn about global wildlife health issues. It has allowed faculty to serve as mentors and leaders helping other nations develop national wildlife health programs or One Health programs including those in the Caribbean region, Korea and Sri Lanka, the latter of which includes the successful development of an IDRC grant of approximately \$400,000.

THE CWHC BC TEAM, LED BY DR. CHELSEA HIMSWORTH (CENTRE) OFFICIALLY BECAME THE SIXTH CWHC NODE IN 2013 AND IS THE ONLY REGIONAL CENTRE NOT LOCATED ON A UNIVERSITY CAMPUS. THE NODE IS EMBEDDED IN THE BC ANIMAL HEALTH CENTRE IN ABBOTSFORD.



DR. STÉPHANE LAIR AND HIS TEAM FROM CWHC QUÉBEC COLLABORATED WITH A NUMBER OF OTHER GROUPS IN JUNE, 2015 ON THE NECROPSY OF A RIGHT WHALE FOUND DRIFTING NEAR PERCÉ, GASPEZIA.



## CASE STUDY

### Networks and institutional partnerships

Investigations of eagle mortality and injuries by the CWHC Québec regional centre have helped to identify a problem of unintentional trapping of eagles in leg hold traps intended to capture fur-bearing animals. By combining knowledge of the mechanisms of injury with an understanding of trapping methods, the CWHC, working with the raptor rehab centre at the University of Montréal, the provincial government and the trapping association, proposed successful modifications to trapping methods that would prevent eagles being attracted to baits and getting caught in traps which were then put into practice.

## TESTIMONIAL

Through their active participation within the CWHC, and with the support of its technical and financial infrastructure, faculty members have been able to assist many provincial and federal agencies and non-governmental organizations (NGOs) seeking to investigate, understand, and manage health issues pertaining to free-living wildlife. This has been highly beneficial to all involved: Government agencies have been able to provide objective, science-based information to concerned members of the public; participating colleges have demonstrated that they can serve their respective regions in a concrete and relevant manner; and faculty members have been able to pursue their own professional interests. It is quite remarkable how this opportunity to interact with government agencies and NGOs has had positive and sometimes unexpected consequences for faculty members' careers, opening for them new areas of professional activity. Our capacity to deal promptly and effectively with inquiries about wildlife health issues has generated further inquiries, some of which have led to short- and long-term research projects, most often with very practical applications. It would be fair to say that a large proportion of scientific articles and technical documents contributed by faculty members have originated directly from their work within the mandate of the CWHC.

**Pierre-Yves Daoust** DVM, PhD, Dipl.ACVP

CWHC Atlantic Regional Director, Professor, Anatomic Pathology and Wildlife Pathology, Atlantic Veterinary College, UPEI



CANADIAN  
**WILDLIFE HEALTH**  
COOPERATIVE

CREATING A WORLD  
THAT IS SAFE AND SUSTAINABLE  
FOR WILDLIFE AND SOCIETY



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