PROCEEDINGS OF THE PARKS CANADA WORKSHOP ON THE MANAGEMENT OF CWD

A FIRST STEP TO DEVELOP APPROACHES TO MANAGE CHRONIC WASTING DISEASE (CWD) IN THE NATIONAL PARKS OF THE PRAIRIE REGION

March 18 & 19, 2008

Western College of Veterinary Medicine, Saskatoon, Saskatchewan
Parks Canada Workshop on the Management of CWD (2008: Parks Canada Agency)

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PROCEEDINGS OF THE PARKS CANADA WORKSHOP ON THE MANAGEMENT OF CWD

A First Step to develop Approaches to Manage Chronic Wasting Disease (CWD) in the National Parks of the Prairie region

Parks Canada Agency, 2008
FOREWORD

This workshop was a result of a recognized need for specific direction and guidance within Parks Canada regarding the management of Chronic Wasting Disease (CWD) in western national parks. This disease is on the rise and spreading through Saskatchewan and Alberta. Though it has not yet been detected in any of the region’s national parks, its arrival could constitute a serious threat to our parks’ cervid populations (including deer, elk, moose, and potentially woodland caribou) and by extension to national park ecological integrity and visitor experiences. The need for collaborative management of this fatal infectious neurodegenerative disease of wild cervids has been recognized both nationally and regionally since 2004, but very little proactive discussion or concrete steps have been taken within the organization. An organizing committee was struck by Parks Canada in the fall of 2007 with the goal of coordinating a multi-jurisdictional workshop that could initiate a strategy for dealing with this disease when it is found within a national park. The workshop was held over two days in March of 2008 at the Western College of Veterinary Medicine in Saskatoon, Saskatchewan and brought together numerous experts in the field of CWD management and research as well as neighbouring jurisdictions who have already had to deal with CWD on the ground or are in the process of strategy development.

This workshop represents a first step to begin a dialogue to allow national park managers to reach a common understanding of the complex issues surrounding CWD, to strengthen the network with our counterparts, and to begin framing out the steps ahead for collaborative action on CWD to maintain ecological integrity on a landscape scale. These proceedings attempt to summarize the key points that were made during the two-day workshop. While the ideas and recommendations compiled herein do not in any way represent approved policy or direction of Parks Canada Agency, this information will hopefully act as a catalyst to stimulate further action and discussion on the management of CWD in and around national parks.

This workshop report is freely available to all interested parties and will be made available to anyone with an interest in the management of chronic wasting disease. The organizers hope the workshop will assist in answering the broader policy questions surrounding the management of this complex wildlife disease issue in Canada.

Dr. Todd Shury, DVM
Wildlife Health Specialist, Parks Canada Agency

October 2008
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Our CWD Workshop Planning Committee is:

Dr. Todd Shury, Committee Co-Chair, National Office – Ecological Integrity Branch
Ed McLean, Committee Co-Chair, Prince Albert National Park
Dan Frandsen, Committee Member, Prince Albert National Park
Adrian Sturch, Committee Member, Grasslands National Park
Fiona Moreland, Committee Member, Prince Albert National Park
Ken Kingdon, Committee Member, Riding Mountain National Park
Dr. Jim Rettie, Committee Member, Western & Northern Canada Service Centre, Parks Canada
Eva Paul, Workshop Secretariat, Prince Albert National Park
EXECUTIVE SUMMARY

Chronic Wasting Disease (CWD) is a fatal infectious disease affecting members of the deer family (deer, elk, moose, and potentially woodland caribou) in North America. It is not native to North American ecosystems. The disease arrived in Canada from the United States in the 1990s, likely through movement of elk for game ranching. The first case of CWD detected among wild cervids here in Canada was in Saskatchewan back in 2000. Since then, CWD has spread extensively in Saskatchewan and Alberta. Though it has not yet been detected in any of the region’s national parks, its arrival could constitute a serious threat to our parks’ wildlife populations and by extension to national park ecological integrity and visitor experiences. The impact of CWD on wild cervid populations is only speculative and based on current computer models. Significant uncertainty in this area has resulted in widely varying approaches to management across North America, most of which are highly controversial.

In Saskatoon in March 2008, Parks Canada Agency (PCA) staff met with representatives of wildlife agencies from the prairie provinces and with other professionals working on chronic wasting disease management, monitoring and research. The purposes of the meeting were: to share information and educate Agency decision-makers and practitioners on CWD; clarify policy positions on the management of the disease; and to take the first steps to frame out a strategic plan to help move Parks Canada from “ideas to action” for the proactive and collaborative management of the disease within the national parks of the prairie region and at a greater landscape level beyond park boundaries.

Though a National CWD Strategy was developed and approved by the provinces and the federal government in 2005, there is currently no federal champion, funding is absent, and actions have yet to be implemented. Instead, workshop attendees learned how in the absence of federal leadership the provinces have taken action on the disease ranging from basic surveillance in Manitoba, through limited monitoring with hunter-based management in Saskatchewan, to extensive monitoring and aggressive population reduction measures to reduce deer density in Alberta. Current known distribution of CWD includes much of southern Saskatchewan, with positive cases confirmed within 100 km of Prince Albert and Grasslands National Parks. The disease is also present in eastern Alberta with a positive case about 130 km east of Elk Island National Park. Surveillance in areas close to these national parks has been limited to date. The rate of spread of CWD suggests that urgent action is required to prevent its further geographic spread into other areas of Canada’s prairie provinces, including our national parks.

The National CWD Strategy was presented to the group and, like most infectious disease strategies, it emphasises early detection and prevention. These depend on
effective research and carefully planned management responses coupled with extensive education and communication initiatives. A presentation on the recent PCA experience with Bovine Tuberculosis in Riding Mountain National Park outlined the substantial Agency resources required to respond to a disease that is already established.

The second day of the workshop provided an opportunity for participants to contribute ideas on optimal investments by PCA towards preventing and managing CWD. Participants’ conclusions were that PCA undertake internal development of formal strategies for CWD research, surveillance, and communication. Recommendations also included building external collaborative relationships with provinces and working to manage CWD risk at the landscape level around the parks. The need for identifying a federal champion and earmarking funds was identified as critical to promote and activate the National CWD Strategy. Parks Canada has organizational strengths and personnel that could contribute greatly to regional CWD management efforts. Doing nothing is not a likely alternative for managing CWD in national parks.


À Saskatoon en mars 2008, le personnel de l’Agence Parcs Canada a rencontré des représentants des organismes de gestion de la faune des provinces des Prairies et d’autres professionnels œuvrant à la gestion et à la surveillance de l’encéphalopathie des cervidés de même qu’à la recherche sur cette maladie. La réunion avait pour but de partager des renseignements sur l’EC, d’informer les décideurs et les intéressés de l’Agence, de clarifier les positions de principe sur la gestion de la maladie et de prendre les premières mesures pour élaborer un plan stratégique afin d’aider Parcs Canada à passer de l’idée au geste, c.-à-d. prendre des mesures dynamiques et concertées de gestion de la maladie dans les parcs nationaux de la région des Prairies et, à l’échelle supérieure du paysage, au-delà des limites des parcs.

Même si les provinces et le gouvernement fédéral ont élaboré et approuvé une Stratégie nationale de contrôle de l’EC en 2005, il n’y a actuellement aucun champion fédéral et aucun financement; en outre, aucune mesure n’a encore été prise. Au lieu, les participants aux ateliers ont appris la manière dont, en l’absence de leadership fédéral, les provinces ont pris des mesures à l’endroit de la maladie, comme une surveillance élémentaire au Manitoba, une surveillance limitée et une gestion faite à l’aide des chasseurs en Saskatchewan ainsi qu’une surveillance étroite et une réduction draconienne de la population pour abaisser la densité de cervidés en Alberta. Actuellement, l’EC sévit dans une grande partie du Sud de la Saskatchewan, où on a confirmé des cas à moins de 100 km des parcs nationaux de Prince Albert et des Prairies. La maladie est également présente dans l’Est de l’Alberta où on a recensé un cas à environ 130 km à l’est du parc national Elk Island. Jusqu’à maintenant, les régions situées à proximité de ces parcs nationaux font l’objet d’une surveillance limitée. En
raison de la vitesse de propagation de l’EC, nous devons prendre des mesures urgentes pour freiner l’étallement géographique avant que la maladie ne se retrouve dans d’autres régions des provinces des Prairies, y compris dans nos parcs nationaux.

La Stratégie nationale de contrôle de l’EC a été présentée au groupe et, comme la plupart des stratégies sur les maladies infectieuses, elle met l’accent sur la détection précoce et la prévention. Ces stratégies reposent sur une recherche efficace et une gestion attentivement planifiée, de même que sur des initiatives élaborées d’éducation et de communication. Une présentation sur l’expérience récente de Parcs Canada à propos de la tuberculose bovine dans le parc national du Mont-Riding a donné un aperçu des ressources importantes de l’Agence nécessaires pour combattre une maladie déjà établie.

Au cours du second jour de l’atelier, les participants ont pu lancer des idées sur la manière dont l’Agence Parcs Canada pourrait optimiser son investissement dans la prévention et la gestion de l’EC. Les participants ont conclu que Parcs Canada devait élaborer à l’interne des stratégies officielles en matière de recherche sur l’EC, de surveillance et de communication. Ils ont aussi recommandé d’entamer des relations externes avec les provinces et de travailler à la gestion du risque d’EC en ce qui concerne le paysage autour des parcs. La désignation d’un champion fédéral et l’affectation de fonds sont des mesures primordiales pour promouvoir et lancer la Stratégie nationale de contrôle de l’EC. Parcs Canada pourrait grandement contribuer aux efforts régionaux de gestion de l’EC en raison de ses points forts organisationnels et de son personnel. Ne rien faire n’est pas un choix dans la gestion de l’EC dans les parcs nationaux.
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BACKGROUND

Parks Canada hosted the workshop - Management of Chronic Wasting Disease: a First Step to Develop Approaches to Manage CWD in the National Parks of the Prairie Region – at the Western College of Veterinary Medicine in Saskatoon, Saskatchewan on March 18-19, 2008. The workshop brought together 31 CWD experts, decision makers, and field level practitioners from Parks Canada Agency, Provincial Ministries of the Environment and Agriculture representing the 3 prairie provinces, the Department of National Defence, and Canadian Cooperative Wildlife Health Centre to begin dialogue on collaborative action for the management of Chronic Wasting Disease in prairie national parks (Appendix 1).

Chronic Wasting Disease (CWD) is a fatal infectious neurological disease affecting deer, elk, moose, and potentially woodland caribou. CWD has been called the most important issue in the management of free-living cervids in North America. The disease is not part of our native ecosystems, it was recently introduced to free ranging cervids in Canada, and there are no natural barriers to its spread across Western Canada. According to Bollinger et al (2004) in Chronic Wasting Disease in Canadian Wildlife: an Expert Opinion on the Epidemiology and Risks to Wild Deer ¹, this disease has the potential to reduce cervid populations in the long term and create major socio-economic impacts. The geographic extent of the infection in wild cervids is on the rise across the western prairies and is spreading. Approaches to disease management by lead provincial government agencies have been political, complex and controversial in nature and of questionable efficacy. A joint federal-provincial CWD disease control strategy was developed and approved in 2005 but to date there has been little action on the ground. From a Parks Canada Agency (PCA) perspective, there may still be time for those parks at the leading edge of the disease extent to take action now to slow or halt the progress of the disease before it spreads into the national parks of the region. We must position ourselves strategically and take proactive steps to try to minimize the risks of the disease reaching our national parks. We must also look ahead and reach common ground on our Agency’s position and options, if and when, the disease does strike. Both the key and challenge will be to engage, influence, and collaborate with our respective provincial governments and the Canadian Food Inspection Agency (CFIA) that hold overall jurisdiction for disease management at the landscape level beyond our national park boundaries.

This workshop represents a first step to allow park decision makers and practitioners to reach a common understanding of the issues and policy, to strengthen the network with our federal / provincial / territorial counterparts, and to begin framing out the steps ahead for proactive and collaborative action on CWD to maintain park ecological in tegrity and wildlife health on a landscape scale.

PURPOSE & OBJECTIVES

The objectives of this workshop were to:

- Educate Agency decision-makers and practitioners on CWD;
- Clarify policy positions on the management of CWD;
- Frame out the beginnings of a strategic plan to help move Parks Canada from “ideas to action” for the proactive and collaborative management of CWD within the national parks of the prairie region and at a greater landscape level beyond park boundaries.

AGENDA & FORMAT

The two-day workshop was chaired by Dr. Todd Shury DVM, Parks Canada’s Wildlife Health Specialist. Sessions were structured to facilitate interaction and discussion between participants and provide networking opportunities (Appendix 2). Presentations from experts and practitioners fostering information exchange and shared perspectives were the highlight on Day 1. On Day 2, the group participated in a series of facilitated discussions and breakout sessions to develop proposed action plans for priority strategies related to the collaborative management of CWD in prairie national parks.

Day 1 sessions helped participants reach a common understanding of the complex issues surrounding CWD and build capacity among the group in support of action planning sessions to follow on Day 2. A series of short presentations provided participants with an overview on the biology of CWD and current trends in its research and management. This was followed by provincial status reports on disease monitoring, prevalence, and management action for Alberta, Saskatchewan and Manitoba. Case studies were also presented which highlighted collaborative management of wildlife disease on a landscape level across jurisdictions by federal land managers such as Riding Mountain National Park and the Department of National Defence, Canadian Forces Bases at Suffield and Wainwright, Alberta. A primer on Canada’s federal-provincial CWD Control Strategy and its implications for Parks Canada rounded out the day.

The stage was set for strategic action planning on Day 2 with a presentation, followed by lively discussion among participants, regarding clarification of Parks Canada policies on disease management. The subsequent action planning sessions were facilitated by Rick Proven, Project Manager, National Training Unit for Resource Conservation, Ecological Integrity Branch, Parks Canada. In the late morning participants broke into four groups and participated in an “idea harvest” exercise to answer the question “What collaborative actions on CWD can we take to maintain ecological
integrity?”. Individual ideas were captured by groups on cards. A total of 55 ideas were generated. Groups reassembled into the plenary to sort the cards with ideas harvested by action theme/category and then name the collections of related actions with broad category headings. A total of nine strategic actions categories were identified. After lunch, breakout groups spent the afternoon preparing strategic action plans for a number of strategic action categories using an action planning worksheet as their guide (Appendix 3). Breakout participants self-selected which strategic action category they would work on based on various considerations such as which strategic category they felt to be critically important for further development on this disease management issue, as well as their personal interests and expertise. Participants were allowed to choose from all nine categories, but only six were singled out to work on. Using the action planning worksheet, these six strategic action categories were analyzed, discussed and summarized by the various breakout groups each consisting of three to five participants. Action plans for the six categories were presented to the plenary group and a discussion then ensued on how to turn these actions into reality. A series of recommendations emerged from plenary on our next steps.

COMMUNICATION OF RESULTS

A summary of the workshop has been compiled in this report for distribution to workshop participants, partner agencies, and any other stakeholders with an interest in the management of Chronic Wasting Disease. The organizers hope the workshop will stimulate further action and discussion on the management of CWD in and around national parks, as well as assist in answering the broader policy questions surrounding the management of this complex wildlife disease issue in Canada.

This publication is supported by a companion CD containing digital versions of the workshop presentations. For a copy of the CD, please contact:
- Dr. Todd Shury (Email: todd.shury@pc.gc.ca; Phone: 306.966.2930) or,
- Ed McLean (Email: ed.mclean@pc.gc.ca; Phone: 306.663.4537).
Overview of the biology of Chronic Wasting Disease
Todd Shury, Parks Canada Agency

Dr. Shury reviewed the currently known aspects of Chronic Wasting Disease (CWD) and how it relates to other TSEs (Transmissible Spongiform Encephalopathies) of domestic animals and humans such as scrapie, BSE (Bovine Spongiform Encephalopathy) and kuru. A short history of how CWD is believed to have arrived in Saskatchewan and Alberta in the past two decades was then presented. A review of CWD pathology, distribution in North America, diagnosis, pathogenesis, transmission, clinical signs, environmental detection, zoonotic potential, and a brief discussion of attempts at control and management in North America was also presented.

Issues raised during discussion included:
- There are currently seven different known strains of scrapie and there are many different strains of CWD currently being identified and some of these seem to have differential infectivity and pathogenesis;
- Impact on carnivores seems to be minimal with ongoing work being done in Colorado on cougars. Canids (wolves, coyotes, foxes) seem to be very resistant to CWD and other TSEs;
- New cases that have showed up in the US are associated with both transfers of live animals as well as animal parts (e.g. cases associated with a taxidermist in NY state);
- Tests for CWD are fairly sensitive (i.e., reliably detect CWD when it is present) and specific (i.e., show positive results only to CWD), but they depend on the tissue being tested - with retropharyngeal lymph node and obex allowing the earliest detection in deer.

Distribution of Chronic Wasting Disease among captive and wild cervids in North America as of April 2007 (Source: USGS, National Wildlife Health Centre Website)
Dr. Bollinger presented a summary of research to date in southern Saskatchewan on the distribution and efforts to model CWD in a prairie landscape. Current research is focusing on landscape genetics, radio collaring and movement of deer and other diseases as surrogates of CWD. For this latter research a gamma herpes virus is showing some promise. Genetics has revealed little population structure for Saskatchewan deer herds and little or no resistance to CWD. Radio collaring has revealed fairly small home ranges with dispersals and seasonal movements outside current Herd Reduction Area boundaries. The proportion of population infected has remained stable in some areas (Manitou Sand Hills) while it appears to have increased rapidly in others (Zone 50). Targeted surveillance has relied on hunter sampled deer and elk. This program tested over 37,000 samples over the last decade, but suffers from poor location information for some years and samples. Passive surveillance utilizing clinically ill deer has revealed new foci of CWD in Saskatchewan and Alberta, as well as discovering other wildlife diseases. Hunting pressure does not seem to affect distribution of deer during fall, but there are seasonal migration patterns that are quite regular and predictable. Point sources of high deer congregation (grain piles, hay storage areas) and other high-density deer areas may be important for CWD transmission and persistence. This project hopes to develop a landscape model to predict CWD transmission and spread in conjunction with related research projects in Alberta.

Issues raised during discussion included:

- Potential for transmission of CWD to other wild species such as woodland caribou was discussed;
- Regarding the potential for transfer of CWD to cattle, the risk seems low to negligible;
- Outfitters and hunters are reluctant to submit heads for testing because of negative effects associated with positive diagnosis. Outfitters groups in Alberta support current CWD management as they see the positive benefits of doing something now;
Baiting and feeding is legal in Saskatchewan and outfitters see removal of this practice as a threat to their livelihoods, unlike in Alberta where baiting and feeding of ungulates is currently not allowed;

- Saskatchewan currently spends about $500,000 annually to manage CWD;
- CWD prevalence in other endemic areas like Colorado and Wyoming is as high as 20% in mule deer while it tends to be lower in elk and white-tailed deer;
- From the point of view of opportunities for contact with infected mule deer, white-tailed deer do not seem to be as strongly associated with riparian areas and drainages as mule deer in southern Saskatchewan;
- A strong communications program was essential to meeting the needs of stakeholders and landowners in the initial years of CWD management in Saskatchewan and included meetings, public advisory committees and mail-outs.
Based on Canada’s National Chronic Wasting Disease Control Strategy and the 2004 Expert Panel Report, Alberta has implemented a CWD management program and actions with three basic tenets: 1) CWD is not a native component of ecosystems, 2) it was introduced recently to free-ranging cervids in Canada, and 3) there are no natural barriers to further geographic spread in western Canada. Communications with local landowners, residents, and stakeholders has been critical to the success of the program to date. A summary of management actions taken in key areas of the province was presented with a focus on current actions which aim to reduce deer density in newly discovered CWD areas (10 km radius around a positive case) to less than 1 deer per square kilometer using ground based sharpshooters, aerial sharpshooters, and enhanced hunting opportunities in areas primarily along the Alberta/Saskatchewan border. Landowners were happier with aerial shooting as there were fewer disturbances due to rapidity of the operation and less risk of damage to sensitive landscapes in prairie habitats.

Deer are salvaged to the extent possible. Meat is distributed to local residents, local First Nations, and food banks. Hides are provided to hunting organizations for use as fund-raisers for wildlife conservation activities. Offal and carcass remains are buried in approved landfills. Some harmonization of management programs has occurred with the Government of Saskatchewan in border areas. Chronic Wasting Disease was identified in wild deer in Alberta in September 2005.

Issues raised during discussion included:
- A full-time communications officer had been assigned to the CWD portfolio in 2007, but was unavailable this field season, with some negative consequences. Information is distributed to media and local landowners before, during and after each management action is undertaken. The internet is not an effective means of communication with rural residents;
The effectiveness of deer density reductions is not currently known but, using Alberta data, will be calculated shortly. The goal of density reduction is complete depopulation of deer in the direct vicinity of any CWD positive in order to eliminate deer that may have been infected. This approach parallels disease control actions taken in captive cervid herds and has been used successfully in livestock disease control programs.

The program is tailored to the specific CWD risk factors, as they are known in Alberta. It is not applicable everywhere but could be considered in similar situations (recent invasion of an exotic disease in limited geographic and temporal scale).
Saskatchewan Ministry of Environment CWD management
Yeen Ten Hwang, Saskatchewan Ministry of Environment

To date, 193 cases of CWD have been confirmed in wild deer in Saskatchewan since 2000. Fifty positive game farms have also been discovered, with three being fairly recently in 2008. CWD management program has evolved considerably over the past decade in Saskatchewan based on landowner and hunters concerns. Earn-a-buck program has now been instituted in all CWD management zones for mule deer and increased opportunities are being allowed for white-tailed deer. A recommendation to ban deer baiting has been proposed internally, but there is uncertainty regarding implementation and enforcement. Saskatchewan has recently moved from a goal of CWD eradication to CWD management that has the objectives of limiting geographic spread and reducing prevalence using hunters as a primary management tool. Deer numbers have been reduced considerably in the past year due to a hard winter and this may help reduce density and transmission in the forest fringe areas. A major impediment has been public attitudes toward CWD in Saskatchewan (i.e., some hunters and landowners think it has always been there and do not see it as a significant population threat).

Issues raised during discussion included:
- Current program seems to be driven more by public relations than science. Lack of provincial funding has hampered management and response; National CWD Control Strategy was supposed to address this;
- May not be able to detect spread to new areas as opposed to determining current geographic distribution due to lack of samples from across the entire province;
- There is no public support or funding for a targeted removal of animals similar to what Alberta has undertaken;
- Education programs are lacking and there are myths and misconceptions which tend to drive the public’s responses to CWD management.
The Government of Manitoba believes their province to be CWD free, based on hunter surveillance data to date. The province has undertaken a number of steps to ensure that it remains CWD free through surveillance programs, regulation changes, and communications/public education programs to address three areas of concern: 1) Saskatchewan and US border areas, 2) provincial elk farms, and 3) carcass import. A CWD testing program for hunter submitted elk and white-tailed deer heads was initiated over a decade ago in 1997, with samples collected from Game Hunting Areas (GHAs) adjacent to the US and Saskatchewan borders and from Riding Mountain National Park. A number of regulatory changes were enacted to reduce the risk of introduction and transmission/spread of CWD: a ban on import of native/exotic cervids; ban on possession of cervid scents and attractants; ban on import of unprocessed cervid carcasses. Other measures related to management of bovine tuberculosis will also help prevent the spread of CWD including a ban on baiting and feeding of cervids for the purpose of hunting and the power to order removal of attractants to prevent unnatural cervid herding behaviour. These management steps have been supplemented by stakeholder and public communications initiatives on the risks of CWD as well as collaboration with neighbouring jurisdictions (Minnesota, North Dakota, and Saskatchewan). In 2007, the province was finalizing a comprehensive CWD action plan focusing on prevention, containment, and eradication. The action plan is scenario drive with “what if...” responses based on the latest science.

Issues raised during discussion included:

- Regarding the provinces current CWD testing program for hunter submitted elk and white-tailed deer heads, head submission in GHAs along the Saskatchewan border is mandatory while participation is voluntary along the US border. Have noted a significant decline in participation in hunter return program last year that may be related to decision by province to discontinue giving out ball caps to participating...
hunters. In the Riding Mountain eradication area they tried other incentives such as issuing a free deer tag to hunters submitting a “quality” sample;

● Have experienced some resistance from hunting outfitters who refuse to bring in samples. Threat of pulling their tags has resulted in some cooperation;
● Levels of compliance among other hunter sampling programs were discussed comparing Manitoba’s compulsory program to other jurisdictions in Alberta and Saskatchewan where participation is voluntary and promoted through initiatives like hunter education and incentive programs like “Earn-a-Buck” tags;
● Currently the province does not have a moratorium on elk farming in Manitoba. The only condition is that farmers must get their elk from sources within the province;

Province of Manitoba’s ban of baiting and feeding of wildlife is designed to minimize unnatural cervid herding behaviour in order to reduce the risks of disease transmission (Photo Credits: Manitoba Conservation, Government of Manitoba & Parks Canada)

● The provincial agricultural ministry is currently experimenting with use of dogs to keep cervids away from farm-based attractants to help manage transmission of bovine tuberculosis;
● The provinces new CWD action plan has been developed based on perceived levels of threat. To date the province has not involved First Nations in the development of this plan.
Manitoba’s bovine tuberculosis management program: Lessons learned in working collaboratively with partners to manage wildlife disease on a landscape level – the Riding Mountain National Park perspective

Ken Kingdon, Parks Canada Agency

Riding Mountain National Park’s concerns with bovine tuberculosis (TB) beyond its boundaries began in 1991 with a confirmed case of the disease in domestic cattle near the national park. In 1992, TB was confirmed in a hunter killed wild elk taken nearby which was determined to be spill over from the positive farm tested in 1991. Following TB outbreaks in elk and cattle in the early 1990s and spurred by a decision by the Manitoba government to introduce cervid farming, Riding Mountain National Park became concerned about potential impacts of the disease on the park’s wild elk and initiated a TB monitoring program for elk (2,500 animals). To date, six outbreaks of bovine TB have been detected in domestic cattle affecting 12 neighbouring farms and over 2000 head plus positive cases have also been detected in wild cervids, including 35 elk and 7 white-tailed deer. In response, the TB Task Group was formally established in 2000 with representatives from federal (Canadian Food Inspection Agency, Parks Canada) and provincial governments (Manitoba Conservation, Manitoba Agriculture, Food & Rural Initiatives), and industry / interest groups (Manitoba Cattle Producers Association, Manitoba Wildlife Federation). Two advisory committees were also established to support the Group: 1) TB Stakeholder Advisory Committee (established 2003) gave a local voice to stakeholders surrounding the park (including First Nations, hunting outfitters and ecotourism industry sectors, fish & game advocacy group, local producers, environmental non-governmental organization, local rural municipalities); 2) Scientific Review Committee (established 2004) to provided unbiased science-based advice.

A number of management activities have since been implemented: 1) surveillance programs (including hunter-killed sampling and live capture programs for wild elk and white-tailed deer); 2) various disease prevention initiatives including barrier fencing to exclude cervids from hay adopted by 90% of cattle producers within 3 miles of the park boundary as well as changes to provincial wildlife baiting/ feeding regulations; 3) research; 4) disease control.
Communications and consultation have been fundamental to the development and implementation of this plan. Lessons learned included: 1) the use of social sciences to help understand public attitudes and reaction to the issue and management actions emerging; 2) sharing of information in a timely manner with a wide group of stakeholders using modern technological tools (internet, email distribution lists); 3) have dedicated staff resources committed to communications; 4) stakeholders must be given meaningful opportunities to be part of the decision making process; 5) include groups on your team who are perceived to be unbiased; 6) define the rules for form & function of advisory bodies with charter or terms of reference.

Issues raised during discussion included:
- Although they had good success with the formation of the advisory committees to the Task Group, stakeholders still seemed to want more access to the process and decisions;
- In terms of how Parks Canada and the Task Group received advice and incorporated it into their decision-making, responses were issued in writing with explanations on how advice was actually used in decision-making.
The management of Chronic Wasting Disease on federal lands at CFB Suffield and CFB Wainwright: A model for federal-provincial collaboration in Alberta.
Shane Mascarin, CFB Wainwright & Delaney Boyd, CFB Suffield, Department of National Defence of Canada

A federal-provincial collaboration model for the management of CWD on federal lands was presented for two Canadian Forces Bases located in Alberta. CFB Wainwright and Suffield each have unique land use characteristics that have shaped their respective ungulate management programs. The 620km$^2$ base at Wainwright, which includes federally managed lands and provincial government leases, is managed for multiple users including military operations, active natural gas wells (> 100 well sites), cattle grazing, and public access for mixed recreational uses (including hiking, hunting, and fishing). The base has allowed deer hunting within its boundaries since 1966. In contrast, the 2,690 km$^2$ federally owned land base of CFB Suffield does not allow for public access and hunting is prohibited. The Suffield base supports military training and research, active oil & gas wells (> 10,000 well sites), and cattle grazing. The base is also home to a National Wildlife Area (NWA) subject to special environmental protection measures. Random testing for CWD of hunter-killed whitetail deer began at CFB Wainwright in 2001 and since 2006, submission of heads for testing has become mandatory. To date over 800 heads have been tested at CFB Wainwright. In contrast, sampling at Suffield has been extremely limited because of the prohibition on hunting. To date no heads have tested positive for CWD at either base but a number of positives have turned up within 1-10 km of bases’ boundaries. In anticipation, the Department of National Defence has taken proactive steps to work collaboratively with its partners from the Province of Alberta and the Canadian Wildlife Service (involvement related to federal responsibilities for the NWA at Suffield) by its participation on North and South CWD joint advisory committees. The Wainwright Committee has taken steps to enhance its surveillance to increase the number of mandatory head submissions by hunters (e.g. additional antlerless tags, special landowner hunting licences for base personnel). The Department of National Defence is also coordinating the required environmental assessments for both bases to evaluate various management options available (e.g., culling, surveillance sampling) to enable prompt action upon discovery of the disease within base boundaries.

Issues raised during discussion included:
- Parks Canada may want to take note of this proactive and collaborative approach, particularly as it relates to completion of environmental assessments well in advance of CWD disease detection within your boundaries.
Parks Canada policy: Wildlife disease management
Todd Shury & Stephen Woodley, Parks Canada Agency

A review of policy regarding wildlife disease management was summarized including essential aspects of the National Parks Act such as the imperative to maintain and restore ecological integrity as a first priority for management of national parks. Several aspects of the Guiding Principles and Operational Guidelines for Parks Canada (1994) were also presented. Active management of parks is currently allowed only when the structure or function of an ecosystem has been seriously altered and manipulation is the only possible alternative available to restore ecological integrity. All practical efforts will be made to prevent the introduction of exotic plants and animals into national parks, and to eliminate or contain them where they already exist. CWD is definitely considered an exotic disease (not native). A key aspect raised was the interpretation of whether or not CWD can affect the ecological integrity of a park. Evidence to support this can be found in two recent scientific journal articles that were briefly summarized

Issues raised during discussion included:
● We may not know the exact origin of CWD, but it is relatively clear that it came to Saskatchewan as a result of translocation of elk for the game farm industry. It is very unlikely that it has always been here, as there is no evidence to support this notion. Balance of evidence points to a likely origin from scrapie;
● The public response to harvesting of animals for both disease control and for population control in national parks has been relatively favourable in the past few years (e.g. Elk Island National Park, Riding Mountain National Park), but there needs to be a clear impact on ecological integrity and a strong need to work with our neighbours;
● Unnatural congregations resulting in short term high densities of wild cervids need to be managed (eliminated) as there is evidence that habitat fragmentation and increased contact can lead to higher prevalence of CWD;
● COSEWIC has determined that it takes at least 50 years for a species to become “naturalized”, but there is uncertainty about how this would pertain to a disease outbreak;
● Parks Canada’s mandate does not directly include disease control; this is the mandate of the CFIA;
● PCA has good communications networks and skills that could potentially be used to inform and shape public opinion on CWD;

• CWD may impact ecological integrity, but it is unlikely to wipe out populations of cervids in the absence of some other contributing environmental variable. It may change the structure of populations though (less older animals due to direct mortality);
• If CWD affects boreal woodland caribou and spreads to barren ground populations, it has the potential to devastate northern economies and livelihoods if unchecked, as there would be no barriers to natural spread;
• Communications around CWD management is extremely difficult, especially when it currently only affects 1-3% of a population and we are proposing to drastically reduce deer density, especially with a disease with no known impacts on livestock and/or human health;
• Perceptions of PCA are important. We do not want to be perceived as doing nothing, but we do not want to be perceived as being overly aggressive either. At this time we should place our emphasis on supporting the provinces rather than focusing exclusively on management action within national parks. PCA needs to influence the course of this disease outside the boundaries of parks if possible and focus on prevention at this point. May want to delay or minimize the current spread of CWD until more management tools become available in the future (e.g. vaccines, diagnostic tests);
• It is very difficult to communicate scientific uncertainty. Some of the problems with risk lie within the game farm industry in Saskatchewan and we may be able to influence these groups as well as the Canadian Food Inspection Agency (CFIA).
A brief overview of the National CWD Control Strategy was presented including the history, the governance structure, and the six goals of the strategy, which are based on the National Wildlife Disease Strategy: 1) prevention of emergence; 2) early detection; 3) planned responses; 4) effective management and research; 5) education and training; 6) communications. The strategy was approved by the Federal-Provincial / Territorial Resource Ministers Council in 2005, but a funding formula was never approved or finalized. The Canadian Wildlife Service originally championed the strategy, but reallocation of key staff members led to political stagnation on this file. The current National Animal Health Strategy is being looked at as an alternative to reinvigorate the National CWD Control Strategy, but this process is also on hold.

Issues raised during discussion included:
- Lack of a federal champion to fund the strategy and lead it has effectively hampered any forward momentum on this file.
STRATEGIC ACTION PLANNING FOR THE MANAGEMENT OF CWD

This workshop represents a first step for Parks Canada Agency. Ideas, actions, and recommendations presented here in this proceedings represent a collection of thoughts emerging from the workshop for consideration by the Agency as we move forward to develop our strategy for managing Chronic Wasting Disease in the national parks of the prairie region. These idea have not been fully debated, discussed, and vetted by this organization and do not in any way represent approved policy or direction of Parks Canada Agency.

Idea Harvest, Sorting & Strategic Action Category Naming Exercises

Workshop participants broke into groups and participated in an “idea harvest” exercise to answer the question “What collaborative actions on CWD can we take to maintain ecological integrity?”. A total of 55 ideas were generated. Groups reassembled into the plenary to sort ideas harvested by action theme/category and then name these categories with broad headings. A total of nine strategic actions categories were identified. These categories, with a synopsis of the key actions generated through the idea harvest exercise, are presented below:

1. **Strengthen inter-jurisdictional collaboration on CWD**
   i. Support trans-boundary disease policy with provinces and CFIA;
   ii. Use Grasslands National Park weed management model as a template;
   iii. Identify proactive measures in conjunction other jurisdictions;
   iv. Link to National CWD Control Strategy.

2. **Renew the National CWD Control Strategy**
   i. Identify a federal champion to renew this national strategy;
   ii. Build political momentum and engage leadership at federal level;
   iii. Support a Saskatchewan program review.
3. Develop a CWD surveillance strategy
   i. Create optimal, common sampling and design strategy to enhance surveillance for CWD;
   ii. Annual ungulate surveys to identify population at risk;
   iii. Dedicated passive surveillance to enhance early detection.

4. Develop a Parks Canada specific CWD research strategy
   i. Identify, fund and prioritize research needs and knowledge gaps;
   ii. Model effects of management interventions and population impacts for CWD;
   iii. Epidemiological risk assessment to gain knowledge of local cervid movements to understand effects on ecological integrity.

5. Develop a CWD communications and education strategy
   i. Increase public awareness of CWD generally;
   ii. Identify target audience(s) for consistent messaging and focused communications with neighbours;
   iii. Develop communications regarding positive aspects of predators in controlling CWD;
   iv. Identify scientifically justified messaging.

6. Build and maintain relationships
   i. Create both internal and external communication networks;
   ii. Enhance stakeholder involvement and develop positive working relationships with non-traditional parties (e.g. outfitters, hunters);
   iii. Create understanding of other positions regarding CWD through collaborative planning and communication.

7. Prepare a CWD response plan
   i. Draft local and national response plans;
   ii. Must establish common measures of success;
   iii. Undertake cost/benefit analysis of realistic management options currently available;
   iv. Build a realistic, science-based response tool kit.

8. Manage CWD risk factors at a landscape level
   i. Ban baiting and feeding of cervids;
   ii. Reduce ungulate density in national narks;
   iii. Prevent CWD from infecting caribou populations;
   iv. Manage predators at regional scale;
   v. Have meaningful input in management of cervid farms.
9. **Establish Parks Canada’s commitments**
   
i. Prioritize and coordinate roles and responsibilities for management of CWD in Parks Canada;
   
ii. Revisit disease priorities in the management planning process.

*Photo Credit: Parks Canada*
Using an action planning worksheet as their guide, breakout groups spent an afternoon preparing strategic action plans for a number of the categories created in the previous session. Six of the nine strategic action categories identified as priorities were analyzed, discussed and summarized by the various breakout groups each consisting of three to five participants. Action plans for the six categories were presented to the plenary group and a discussion then ensued on how to turn these actions into reality. Portions of the action plans developed by groups (e.g., advantages, limits, and accomplishments) for each of the six strategic action categories are summarized, in no particular order of their priority, in the following tables (Tables 1-6):

1) Develop a Parks Canada specific CWD research strategy
2) Develop a CWD communications and education strategy
3) Develop a CWD surveillance strategy
4) Strengthen inter-jurisdictional collaboration on CWD
5) Renew the National CWD Control Strategy
6) Manage CWD risk factors at a landscape level
Table 1. Action planning elements proposed by participants related to the development of a Parks Canada specific CWD research strategy.

<table>
<thead>
<tr>
<th>Strategic Action Category</th>
<th>Strengths</th>
<th>Weaknesses</th>
<th>Benefits</th>
<th>Dangers</th>
<th>Possible Accomplishments</th>
<th>Measurable Accomplishments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Develop a Parks Canada CWD research strategy</strong></td>
<td>Have existing national CWD and disease strategies</td>
<td>Significant knowledge gaps on distribution and prevalence</td>
<td>Can help to control spread and prevalence</td>
<td>We might be wrong about disease assumptions</td>
<td>Find out current level of knowledge</td>
<td>Better understanding of cervid movement patterns on landscape level by 2013</td>
</tr>
<tr>
<td></td>
<td>Have existing hyperabundant species policy</td>
<td>Epidemiology largely unknown</td>
<td>Increase basic knowledge about CWD</td>
<td>There may be no public support</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Good internal expertise with modelling</td>
<td>Public resistance to management measures</td>
<td>Create a unified response</td>
<td>Decisions may be based on incomplete or wrong information</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Good information from outside agencies</td>
<td>Funding unknown and will be expensive</td>
<td>Make improvements to ecological integrity</td>
<td>Environmental change and “playing God”, we don’t know where CWD originated</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>CCWHC and other agencies have strong research foundation</td>
<td>Parks Canada lacks disease expertise</td>
<td>Create and maintain healthy cervid populations</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>Proactive</td>
<td>No common policies to build upon</td>
<td>Will be cost effective over the long-term</td>
<td></td>
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</tbody>
</table>

- Identify knowledge gaps
- Increased CWD funding
- Better understanding of cervid movement patterns
- Develop epidemiology risk assessment
- Identify risk factors
- Develop live animal tests
- Prevent, control and eradicate CWD
**Table 2.** Action planning elements proposed by participants related to the development of a Parks Canada CWD communications and education strategy.

<table>
<thead>
<tr>
<th>Strategic Action Category</th>
<th>Strengths</th>
<th>Weaknesses</th>
<th>Benefits</th>
<th>Dangers</th>
<th>Possible Accomplishments</th>
<th>Measurable Accomplishments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Develop a CWD communications &amp; education strategy</td>
<td>Informed public will lead to more political pressure and public support</td>
<td>Knowledge gaps</td>
<td>Higher level of internal understanding of CWD</td>
<td>Partners may not buy-in to process or means</td>
<td>Communication/education strategy that outlines goals, outcomes, audiences, methods, messages</td>
<td>Create a communication and education strategy by September 2009</td>
</tr>
<tr>
<td></td>
<td>Consistent messaging within Parks Canada</td>
<td>Impacts on ecological integrity unknown</td>
<td>May prevent 'blow-ups'</td>
<td>Public backlash</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Increased likelihood of buy-in</td>
<td>Potential lack of consistent messaging</td>
<td>May give us a template for resolving similar issues in future</td>
<td>PCA may lose public credibility and support</td>
<td>Better educated staff</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Proactive</td>
<td>Changes in political landscape may result in change in support</td>
<td>May create advocates for parks</td>
<td>Volatile political climate</td>
<td>Springboard / starting point to go to outside agencies and build a more integrated com plan</td>
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</tr>
<tr>
<td></td>
<td>Building relationships for a united front</td>
<td>May identify roles and responsibilities</td>
<td></td>
<td></td>
<td>Prairie bioregion communications plans</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Collaboration between prairie parks and partners</td>
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</tbody>
</table>
Table 3. Action planning elements proposed by participants related to the development of a Parks Canada CWD surveillance strategy.

<table>
<thead>
<tr>
<th>Strategic Action Category</th>
<th>Strengths</th>
<th>Weaknesses</th>
<th>Benefits</th>
<th>Dangers</th>
<th>Possible Accomplishments</th>
<th>Measurable Accomplishments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Develop CWD surveillance strategy</td>
<td>Baseline CWD prevalence and cervid population distribution</td>
<td>Lack of shared database</td>
<td>Increased sample size</td>
<td>Retaining financial commitment</td>
<td>Build alternative surveillance strategies with costing</td>
<td>Design a population survey and CWD surveillance program by March 2009</td>
</tr>
<tr>
<td></td>
<td>Experienced personnel for fieldwork and analysis</td>
<td>No knowledge of population response to CWD</td>
<td>Baseline data collection</td>
<td>May force Parks Canada into action</td>
<td>Coordinate surveillance with provinces</td>
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</tr>
<tr>
<td></td>
<td>Demonstrates commitment to stakeholders and partners</td>
<td>Lack of human resources</td>
<td>Determine change in prevalence of CWD &amp; geographical spread over time</td>
<td>Long term financial commitment</td>
<td>Better coordination with CCWHC databases</td>
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</tr>
<tr>
<td></td>
<td>Strengthen relationships with support agencies and organizations</td>
<td>Long term financial commitment</td>
<td>Track population changes and distribution</td>
<td>Negative public perception as a result of sample collection</td>
<td>Provide background info to communications</td>
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<tr>
<td></td>
<td>Improve commitment to passive surveillance</td>
<td>Inexperience in active surveillance for CWD</td>
<td>Improved communication</td>
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<tr>
<td></td>
<td>Surveys are presently species specific</td>
<td>Surveys need to be coordinated with provincial jurisdictions</td>
<td>Able to measure effect of management actions</td>
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<td></td>
<td></td>
<td></td>
<td>Develop in-house skill set</td>
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</tbody>
</table>
Table 4. Action planning elements proposed by participants related to strengthening inter-jurisdictional collaboration on CWD management.

<table>
<thead>
<tr>
<th>Strategic Action Category</th>
<th>Strengths</th>
<th>Weaknesses</th>
<th>Benefits</th>
<th>Dangers</th>
<th>Possible Accomplishments</th>
<th>Measurable Accomplishments</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Strengthen inter-jurisdictional collaboration</em></td>
<td>Strengthen existing relationships</td>
<td>Lack of common knowledge at public level</td>
<td>More efficient and effective with partners</td>
<td>Inappropriate use of information</td>
<td>Creation of inter-jurisdictional mechanisms for implementing National CWD Strategy</td>
<td>Spatially defined action plans consistent with National CWD Strategy along with inter-jurisdictional mechanisms for implementation by January 2009.</td>
</tr>
<tr>
<td></td>
<td>Substantial CWD experience in USA</td>
<td>Uncertainty around CWD basic biology</td>
<td>Common or complementary messages</td>
<td>Could be perceived as agencies conspiring for their own agenda</td>
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<td></td>
<td>Shared concern at agency level</td>
<td>Lack of common goals among agencies</td>
<td>Good working relationships built on trust results in free flow of information</td>
<td>Leaving out partners</td>
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<td></td>
<td>Added drain on limited wildlife resources</td>
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</tbody>
</table>
Table 5. Action planning elements proposed by participants related to renewing the National CWD Control Strategy.

<table>
<thead>
<tr>
<th>Strategic Action Category</th>
<th>Strengths</th>
<th>Weaknesses</th>
<th>Benefits</th>
<th>Dangers</th>
<th>Possible Accomplishments</th>
<th>Measurable Accomplishments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Renewing the National CWD Control Strategy</strong></td>
<td>Strengthen national profile of the disease</td>
<td>Action lists too large, too encompassing, too expensive</td>
<td>More effective CWD management</td>
<td>Past record of failure</td>
<td>Build political momentum for funding</td>
<td>Identify federal champion and framework for shared funding by fall 2009</td>
</tr>
<tr>
<td></td>
<td>National guidance and support for current and future provincial programs</td>
<td></td>
<td>More coordinated programs and management</td>
<td>May stifle new, creative input</td>
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<td></td>
<td></td>
<td>Show case successful pilot programs</td>
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<td></td>
<td>Promote federal leadership</td>
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<td></td>
<td>Improved surveillance</td>
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<td>Consistent messaging</td>
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<td>No new foci of CWD</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td>Increase stakeholder support</td>
</tr>
</tbody>
</table>
Table 6. Action planning elements proposed by participants related to managing CWD risk factors at a landscape level

<table>
<thead>
<tr>
<th>Strategic Action Category</th>
<th>Strengths</th>
<th>Weaknesses</th>
<th>Benefits</th>
<th>Dangers</th>
<th>Possible Accomplishments</th>
<th>Measurable Accomplishments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Managing CWD risk factors at a landscape level</td>
<td>There is time to implement plans to keep the disease out of caribou</td>
<td>No physical barriers to spread of CWD</td>
<td>Keep CWD out of national parks</td>
<td>CWD will continue to spread unchecked</td>
<td>Ban baiting and feeding of cervids in jurisdictions that currently allow the practice</td>
<td>Establish working group to phase out baiting and feeding of cervids that includes outfitters, landowners, and the provincial government (Saskatchewan Environment)</td>
</tr>
<tr>
<td></td>
<td>Change in political bodies may favor change in thinking</td>
<td>Different mandates and jurisdictions involved</td>
<td>Keep CWD out of cervid farms</td>
<td>Future effects on rural economies (lack of deer hunting opportunities)</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>Lower ungulate density will reduce chance of CWD transmission and spread</td>
<td>Affects rural economies significantly</td>
<td>Demonstrate to stakeholders that we’re willing to take action</td>
<td>Economic non-viability of cervid farming</td>
<td>Support other agencies (e.g., Canadian Food Inspection Agency, Saskatchewan Ministry of Agriculture &amp; Food) to reduce risk of CWD from farmed cervids</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Unknown ecosystem effects</td>
<td>Strengthen relationships with aboriginal communities</td>
<td>Decreased visitor experience due to low density of ungulates</td>
<td>Work collaboratively to manage wolves around Prince Albert National Park</td>
<td>Write strategy to reduce ungulate density</td>
</tr>
</tbody>
</table>
MOVING FROM IDEAS TO ACTION:  
PARTICIPANTS’ RECOMMENDATIONS ON NEXT STEPS

1) Participants felt that it was important to report on the results of this workshop. This would provide both a communication tool as well as a summary of workshop outcomes and possible next steps;

2) Parks Canada needs to immediately engage and inform the Director-General for Western & Northern Canada and the CEO on the outcome of this workshop regarding CWD and its implications for national parks. Validation and direction from the senior levels of this organization should be sought regarding the management of this disease and our policy position;

3) It was suggested that there be an informal meeting of Park Superintendents from the prairie region and National Office staff with members of the current Canadian Wildlife Directors Committee to encourage support for pushing the National CWD Control Strategy to the top of the agenda for this group. The need for identifying a new federal champion and earmarking funds was identified as critical to promote and activate this national strategy;

4) The Inter-Provincial CWD Forum that existed on an informal basis needs to be re-invigorated and resurrected. It was seen as a valuable communication, education and bridge-building tool;

5) Participants felt that the current workshop organizing committee, with minor changes and additions including addition of representatives from other national parks and external jurisdictions, should continue to keep the momentum from this meeting going forward. The current group was mostly in agreement to continue to act in this fashion in an informal way for the foreseeable future until validation and direction is received from the Agency in response to participants’ recommendations emerging from this workshop;

6) Develop a Parks Canada Chronic Wasting Disease Strategy that would have a short-term focus on actions that were realistic and achievable. The Incident Command Model (ICM) could be used as a basis for a response model within this document;

7) Parks Canada needs to make a strong commitment toward continued surveillance for CWD in prairie national parks that are considered at greatest risk from the disease (e.g., Prince Albert, Grasslands and Elk Island National Parks). These parks may also want to consider working closely with neighbouring provincial and municipal jurisdictions to support increased surveillance efforts on lands adjacent to the park’s boundaries;
8) Education efforts focusing on the disease and its implications need to be bolstered as soon as possible. Audiences include Parks Canada staff, visitors, and members of the general public. Consistent Agency messaging should be developed for use across national parks that, where possible, compliments and reinforces messaging communicated by neighbouring provincial and federal jurisdictions.

There was not enough time left at the end of the workshop to undertake a detailed discussion and debate among participants as to how these recommended actions proposed might be developed and implemented by Parks Canada Agency. While the ideas and recommendations compiled herein do not in any way represent approved policy or direction of Parks Canada Agency, this information will hopefully act as a catalyst to stimulate further action and discussion on the management of CWD in and around national parks. The consensus of the group was that the current CWD workshop planning committee, subject to validation and direction from the Director-General’s Office and Executive Board, be tasked with ensuring that these actions are completed and the organizing committee eventually be broadened to include agencies and stakeholders with an interest in CWD management within parks and protected areas in western Canada.
# APPENDIX 1: List of Workshop Participants

<table>
<thead>
<tr>
<th>Name</th>
<th>Position/Title</th>
<th>Organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alan Fehr</td>
<td>Field Unit Superintendent - Northern Prairies</td>
<td>Prince Albert National Park</td>
</tr>
<tr>
<td>Ed Coulthard</td>
<td>Field Unit Superintendent - Southwest NWT</td>
<td>Wood Buffalo National Park</td>
</tr>
<tr>
<td>Rod Blair</td>
<td>Superintendent</td>
<td>Waterton Lakes National Park</td>
</tr>
<tr>
<td>Dr. Yeen Ten Hwang</td>
<td>Provincial Wildlife Disease Specialist</td>
<td>Saskatchewan Ministry of Environment</td>
</tr>
<tr>
<td>Dr. Margo Pybus</td>
<td>Provincial Wildlife Disease Specialist</td>
<td>Alberta Fish &amp; Wildlife</td>
</tr>
<tr>
<td>Rich Davis</td>
<td>Bovine Tuberculosis Co-ordinator</td>
<td>Manitoba Conservation</td>
</tr>
<tr>
<td>Dr. Trent Bollinger</td>
<td>Director - Canadian Cooperative Wildlife Health Centre</td>
<td>U of S, Western College of Veterinary Medicine</td>
</tr>
<tr>
<td>Shane Mascarin</td>
<td>Range Biologist - Canadian Forces Base Wainwright</td>
<td>Department of National Defence</td>
</tr>
<tr>
<td>Delaney Boyd</td>
<td>Range Biologist - Canadian Forces Base Suffield</td>
<td>Department of National Defence</td>
</tr>
<tr>
<td>Crystal Rainbow</td>
<td>Animal Health Unit - Inspection &amp; Regulatory Mgmt</td>
<td>Saskatchewan Ministry of Agriculture</td>
</tr>
<tr>
<td>Dr. Stephen Woodley</td>
<td>Chief Scientist - Ecological Integrity Branch</td>
<td>Parks Canada Agency - National Office</td>
</tr>
<tr>
<td>Murray Peterson</td>
<td>Resource Conservation Manager</td>
<td>Prince Albert National Park</td>
</tr>
<tr>
<td>Adrian Sturch</td>
<td>Resource Conservation Manager</td>
<td>Grasslands National Park</td>
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<td>Bill Dolan</td>
<td>Resource Conservation Manager</td>
<td>Waterton Lakes National Park</td>
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<td>Dr. Todd Shury</td>
<td>Wildlife Health Specialist</td>
<td>Parks Canada Agency - National Office</td>
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<tr>
<td>Ken Kingdom</td>
<td>Coordinator, Wildlife Health Program</td>
<td>Riding Mountain National Park</td>
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<tr>
<td>Dan Frandsen</td>
<td>Ecosystem Scientist</td>
<td>Prince Albert National Park</td>
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<tr>
<td>Ed McLean</td>
<td>Ecosystem Liaison Manager</td>
<td>Prince Albert National Park</td>
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<tr>
<td>Fiona Moreland</td>
<td>Senior Park Warden</td>
<td>Prince Albert National Park</td>
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<tr>
<td>Eva Paul</td>
<td>Research &amp; Communications Assistant</td>
<td>Prince Albert National Park</td>
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<td>Wes Olson</td>
<td>Senior Park Warden</td>
<td>Grasslands National Park</td>
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<tr>
<td>Norm Cool</td>
<td>Wildlife Biologist</td>
<td>Elk Island National Park</td>
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<tr>
<td>Archie Handel</td>
<td>Park Warden</td>
<td>Elk Island National Park</td>
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<tr>
<td>Rhona Kindopp</td>
<td>Wildlife Biologist</td>
<td>Wood Buffalo National Park</td>
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<tr>
<td>Dr. Jim Rettie</td>
<td>Monitoring Ecologist</td>
<td>Parks Canada Agency – Winnipeg Service Centre</td>
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<tr>
<td>Dr. John Waithaka</td>
<td>Conservation Biologist - Ecological Integrity Branch</td>
<td>Parks Canada Agency - National Office</td>
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<tr>
<td>Rick Proven</td>
<td>Project Manager, National Training Unit for Resource Conservation - El Branch</td>
<td>Parks Canada Agency - National Office</td>
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<tr>
<td>Carlene Gorecki</td>
<td>A/Communications Manager</td>
<td>Prince Albert National Park</td>
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<tr>
<td>Karin Smith-Fargey</td>
<td>Communications Supervisor</td>
<td>Grasslands National Park</td>
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<tr>
<td>Laurie Guyot</td>
<td>Communications Manager</td>
<td>Elk Island National Park</td>
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<tr>
<td>Shawna Clouthier</td>
<td>Outreach Education Specialist</td>
<td>Parks Canada Agency - ERVE Directorate - National Office</td>
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</tbody>
</table>

*Total of 31 participants*
APPENDIX 2: Workshop Agenda:

DAY 1 - Information Exchange, Perspectives, and Case Studies
Tuesday March 18 - Room 2103, University of Saskatchewan, Western College of Veterinary Medicine, 52 Campus Drive, Saskatoon, SK

MORNING (09:00 – 12:00)

• Opening Remarks / Welcome & Introductions (T. Shury, Parks Canada – 0.25h)

• Overview of the Biology of Chronic Wasting Disease (T. Shury, Parks Canada – 0.5h)

• Overview of Current Trends in CWD Research & Management – a Landscape Level Perspective (T. Bollinger, CCWHC and M. Pybus, Government of Alberta – 0.75h)

• HEALTH BREAK (0.25h –coffee, tea and snacks provided)

• Overview of Current Trends in CWD Research & Management – a Landscape Level Perspective - continued (T. Bollinger, CCWHC and M. Pybus, Government of Alberta – 1.25h)

• LUNCH (12:00 - 13:00 – not provided)

AFTERNOON (13:00 – 17:00)

• CWD Status Reports by Province (current policies & disease politics, disease monitoring & prevalence, management program successes & failures, actual / projected environmental and socio-economic impacts)
  - Alberta (M. Pybus, Government of Alberta – 0.5h)
  - Saskatchewan (Y T. Hwang, Government of Saskatchewan – 0.5h)
  - Manitoba (R. Davis, Government of Manitoba – 0.5h)

• HEALTH BREAK (0.25h –coffee, tea and snacks provided)

• A Primer on Canada’s National Federal-Provincial Chronic Wasting Disease Control Strategy – What Does this Mean for Parks Canada? (T. Shury, Parks Canada – 0.5h)

• Case Study Studies
  – Lessons Learned in Working Collaboratively with Partners to Manage Wildlife Disease on a Landscape Level - the Riding Mountain National Park Experience (K. Kingdon, Riding Mountain National Park – 0.5h)
  – The Management of Chronic Wasting Disease on Federal Lands at CFB Suffield and Wainwright - a Model for Federal-Provincial Collaboration in Alberta (S. Mascarin & D. Boyd, Department of National Defence – 0.5h)
Workshop Agenda - continued:

DAY 2 - Action Planning Working Sessions
Wednesday March 19 - Room 2104, University of Saskatchewan, Western College of Veterinary Medicine, 52 Campus Drive, Saskatoon, SK

MORNING (09:00 – 12:00)

- Clarify Underlying Policy Position(s) on CWD Management in the Prairie Region (discussions for this item to be moderated by T. Shury, & S. Woodley - Parks Canada - 1.0h)

- Layout Steps Ahead to Move From “Ideas to Action” for Management of CWD in National Parks of the Prairie Region – Idea Harvest & Card Sort Exercises (1.0h session includes break-outs, exercises and plenary discussion sessions, moderated by R. Proven and other facilitators tba)

- HEALTH BREAK (0.25h –coffee, tea and snacks provided)

- Layout Steps Ahead to Move From “Ideas to Action” for Management of CWD in National Parks of the Prairie Region – Idea Harvest & Card Sort Exercises - continued (0.75h session includes break-outs, exercises and plenary discussion sessions, moderated by R. Proven and other facilitators tba)

- LUNCH (12:00 - 13:00 – not provided)

AFTERNOON (13:00 – 17:00)

- Layout Steps Ahead to Move From “Ideas to Action” for Management of CWD in National Parks of the Prairie Region - Strategic Action Planning (1.50h session includes break-outs, exercises and plenary discussion sessions, moderated by R. Proven and other facilitators tba)

- HEALTH BREAK (0.25h –coffee, tea and snacks provided)

- Layout Steps Ahead to Move From “Ideas to Action” for Management of CWD in National Parks of the Prairie Region - Strategic Action Planning - continued (2.25h session includes break-outs, exercises and plenary discussion sessions, moderated by R. Proven and other facilitators tba)

- Complete Workshop Evaluation Form
### APPENDIX 3: Strategic Action Planning Worksheet

**MEASURABLE ACCOMPLISHMENT WORKSHEET**

1. **STRATEGY**
   Write in the name of the strategy.

<table>
<thead>
<tr>
<th>ADVENTAGES</th>
<th>LIMITS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2. STRENGTHS</strong></td>
<td><strong>3. WEAKNESSES</strong></td>
</tr>
<tr>
<td>In implementing this strategy at this time, we have the following strengths:</td>
<td>In implementing this strategy at this time, we have the following weaknesses:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PRESENT</th>
<th>FUTURE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>4. BENEFITS</strong></td>
<td><strong>5. DANGERS</strong></td>
</tr>
<tr>
<td>In the future of this implementing strategy are:</td>
<td>In the future of this implementing strategy are:</td>
</tr>
</tbody>
</table>

6. **POSSIBLE ACCOMPLISHMENTS**
   Brainstorm possible accomplishments for this time period that build on advantages and acknowledge the limits.

7. **MEASURABLE ACCOMPLISHMENT**
   Choose and accomplishment which:
   - is catalytic
   - is realistic
   - will have substantial impact
   - will inspire commitment and action.

   Taking all of the above into consideration, we are committed to the following measurable accomplishment by __________________ [date]

---

*Worksheet adapted from the Canadian Institute of Cultural Affairs, Action Planning – Participant’s Workbook, 1985, 1996*
SPECIFIC ACTIONS WORKSHEET

8. STRATEGY
Write in the name of the strategy on this line.

____________________________________________________________

9. MEASURABLE ACCOMPLISHMENT
Write the measurable accomplishment that you are committed to on this line [from step 7]

____________________________________________________________

10. SPECIFIC ACTIONS
List the specific actions needed to complete the measurable accomplishment indicated above.

11. If there are more then ten actions listed in Step 10 organize them into clusters that are similar in their action focus. Each cluster should represent a distinct action step.

12. Number the actions in each cluster in the sequence that you will do them.

____________________________________________________________

13. IMAGE / SLOGAN
Create a motivating image or slogan for this action campaign.

Worksheet adapted from the Canadian Institute of Cultural Affairs, Action Planning – Participant’s Workbook, 1985, 1996
16. ACTION TIMELINE
Divide the timeline into the appropriate number of blocks and write the actions [from Step 12] that you have selected in the appropriate timeblock on this timeline.

15. MEASUREABLE ACCOMPLISHMENT
Copy from Step 7.

17. IMPLEMENTING TEAM
Who will be responsible for implementing this action plan? (at least one person in the planning groups; name, not roles).

18. COSTS
Write the costs (time and money) of implementing this action plan on lines below:

a. MONEY-
b. TIME-