

## **PUBLIC NOTICE**

June 14, 2007

The U.S. Fish and Wildlife Service has prepared an Environmental Assessment (EA) for the management of Chronic Wasting Disease (CWD) in cervid populations on the Charles M. Russell National Wildlife Refuge Complex. CWD is not known present in Montana at this time, but has been confirmed in big game species in adjacent states and provinces. CMR is cooperating with the Montana Department of Fish, Wildlife and Parks to prevent introduction of the disease into Montana and with management response action(s) should CWD be detected. The EA is available for public comment from June 15, 2007 through July 31, 2007. Copies of the EA are available at [www.fws.gov/cmr](http://www.fws.gov/cmr) or by contacting CMR at P.O. Box 110, Lewistown, MT 59457, (406) 538-8706.



# **Chronic Wasting Disease Management on the Charles M. Russell National Wildlife Refuge Complex, Montana: Environmental Assessment**

June 13, 2007

Chronic Wasting Disease (CWD) has not been detected in wild cervids in Montana, but has been documented in adjacent areas and may spread into the state. This environmental assessment (EA) evaluates response and management alternatives should CWD be detected on or near the Charles M. Russell National Wildlife Refuge Complex (CMR). The CMR Complex is managed by the U.S. Fish and Wildlife Service (FWS) and includes 6 National Wildlife Refuges (CMR, UL Bend, Hailstone, Halfbreed, Lake Mason and War Horse) in addition to a Wetland Management District containing several Waterfowl Production Areas and wetland easements. This EA is intended to compliment the Chronic Wasting Disease Management Plan for Free-ranging Wildlife in Montana completed by Montana Fish, Wildlife and Parks (MFWP). Actions proposed in this EA apply to CMR and UL Bend National Wildlife Refuges. Because of their relatively small size, the FWS would cooperate with MFWP for response and management should CWD be detected on or near other Service-owned lands within the Complex.

Many thousands of deer and elk are found on CMR and the Refuge is well known internationally for its magnificent wildlife, historic, cultural, scenic and natural resources. Although CMR encompasses more than 1 million acres, big game animals routinely move on and off the Refuge. Hence, management of big game populations, and especially any response to disease outbreaks, must be a coordinated effort with adjacent land managers and MFWP. Big game population management objectives can and do vary among management jurisdictions, but when it comes to a disease threat as significant as CWD, and mobile wildlife that does not recognize administrative boundaries, unified and coordinated responses and management must be a priority for those entrusted by the public to manage public wildlife. Because of this necessity for coordinated responses among agencies, this EA reflects much of the information and approach found in MFWP's CWD plan.

## **1.0 PURPOSE FOR THE ACTION**

The purpose of the proposed action is to prevent the spread of CWD if it is discovered and to reduce the prevalence of CWD in specific locations should it be found on or near CMR. Because CWD is a new and emerging disease in many places, and because the efficacy of response actions are not fully understood, the proposed actions are adaptive and responses may change as new information becomes available. Management responses will likely be adjusted to incorporate results of surveillance efforts and advances in management learned by others dealing with CWD.

## **2.0 NEED FOR THE ACTION**

CMR is managed by FWS as part of a National Wildlife Refuge system of lands dedicated to wildlife and natural resource conservation for the benefit of the American public. Diseases can have devastating impacts on wildlife and ecosystem resources and CWD certainly poses significant risks to mule deer, white-tailed deer and elk on CMR. Wildlife dependent recreation, including hunting of big game animals, is a priority recreational use on National Wildlife Refuges. Big game hunting is the largest recreational use on CMR, generates tens of thousands of recreational use days, provides for the harvest of thousands of animals each year and provides significant economic benefits to surrounding local communities, the state of Montana and the nation.

CWD is a fatal disease of cervids and was first recognized in free ranging populations in 1981. The disease has spread to many states and provinces in recent years and has the potential to greatly diminish big game populations and wildlife-dependent recreation associated with those populations. Because CWD continues to spread, because CWD transmission ecology is poorly understood, and because of the potential to greatly diminish big game populations and the recreational opportunities those populations support, management of CWD is necessary to fulfill the obligations of the FWS to manage CMR as part of a system of lands for wildlife and natural resource conservation.

## 2.1 Objectives of the action

- 2.1.1 Provide timely, complete and accurate information about all aspects of CWD to other agencies and the public.
- 2.1.2 Maintain an adaptive surveillance program to allow for early detection of CWD, assessment of affected populations and monitoring efficacy of management responses.
- 2.1.3 If CWD is detected, minimize the spread beyond affected areas and reduce the incidence of the disease within affected populations.

This EA evaluates the ability of 5 alternatives (A-E) to achieve objectives 2.1.2 and 2.1.3 and discusses potential environmental impacts that may be associated with each.

Although important, no actions are currently proposed by the FWS to specifically address the prevention of CWD introduction or the communication aspects of objective 2.1.1. However, FWS will comply with Montana laws and regulations as adopted in regards to cervid baiting, feeding, translocation and carcass transport and disposal and will assist MFWP whenever possible in CWD prevention efforts. Current CWD surveillance efforts on CMR are a cooperative effort with MFWP and results are routinely shared with other agencies and the public. Should CWD be found in Montana, MFWP has already outlined a Public Information Plan that begins addressing concerns, coordination and public information/reaction management. Should CWD be detected on or near CMR, the FWS will be a cooperator in implementation of that Public Information Plan and achievement of objective 2.1.1.

## 3.0 ALTERNATIVES

### 3.1 Alternative A – No Action

No disease management actions would be undertaken should CWD be detected on or near CMR. The disease would be allowed to run its course without directed management.

- Surveillance: Collection of deer and elk heads for CWD testing would continue on a voluntary basis from hunter-killed animals taken during open hunting seasons in hunting districts (HD) that encompass CMR. The goal would remain to collect enough samples to detect a 1% incidence of CWD with at least 95% confidence. Collection of samples from road-killed animals encountered during normal field operations would continue to be collected year-round by CMR staff. In addition, any animals displaying abnormal behavior or physical debilitation may be collected by authorized personnel for CWD testing.

- Population Assessment: Post-season aerial surveys of deer and elk populations would continue as they have been conducted since 2000, sampling about 25% of the land area on CMR. Results would be used to assess population distribution, composition and density.
- Disease Management: No disease management would be conducted to reduce the spread or prevalence of CWD.

### **3.2 Alternative B – Hunter Harvest Management**

Once CWD was detected on or near CMR with adaptive surveillance efforts, the affected population(s) would be reduced through hunter harvest. Depending on the location(s) of positive CWD sample(s), a management area would be defined based on expected movement and distribution of the effected population segments. This management zone would likely encompass an area up to 10 miles from the index case and would be tailored to reflect local geographic or geologic features and known movement patterns of cervids. Mandatory testing would be required for all animals harvested within the designated management area.

- Surveillance: Surveillance would continue as outlined in Alternative A. Once CWD was detected, all harvested deer and elk within the defined management area would be tested for CWD. Hunters harvesting animals within the designated management area would receive specific instruction on handling the carcass and carcass parts and sample submission would be mandatory.
- Population Assessment: Post-season aerial surveys of deer and elk populations would continue as outlined in Alternative A. Once CWD was detected, additional survey blocks would be added in and around the management area to more accurately determine local population density, composition and distribution.
- Disease Management: Disease management would consist of increasing hunter harvest, with liberalized seasons and bag limits, to reduce the population within the defined management area to 50% of the long-term average population density based on previous aerial survey results. Where deer and elk both occur, populations of both species would be reduced through hunter harvest in the management zone. There is no specified target level toward which CWD prevalence would be managed in this alternative, although an estimate would be produced from hunter harvested samples each year. Management would strive to maintain the population at 50% of the long-term average with hunter harvest and monitor CWD prevalence over time from samples collected by hunters. Should this strategy be successful and no positive CWD animals are detected for 5 consecutive years, population management would return to pre-CWD detection status. Should CWD prevalence remain static, or increase, additional management options may be considered.

### **3.3 Alternative C – Control at less than 1%**

Once CWD was detected on or near CMR with current surveillance efforts, the affected population(s) would be reduced through hunter harvest, and agency collection as necessary, to produce enough samples to detect a 1% CWD infection rate with 99% confidence within the management zone. Depending on the location(s) of positive CWD sample(s), a management area would be defined based on expected movement and distribution of the effected population

segments. This management zone would likely encompass an area at least 10 miles from the index case and would be tailored to reflect local geographic or geologic features and known movement patterns of cervids.

- Surveillance: Surveillance would continue as outlined in Alternative A. Once CWD was detected, all harvested deer and elk within the defined management area would be tested for CWD. Hunters harvesting animals within the designated management area would receive specific instruction on handling the carcass and carcass parts and sample submission would be mandatory. Deficiencies in required sample sizes for the specified CWD detection power would be collected by authorized agency personnel. Meat from animals collected by agency personnel that tested CWD-negative would be made available to charitable organizations. Carcasses of any animal testing positive for CWD would be disposed of in accordance with Montana regulations.
- Population Assessment: Post-season aerial surveys of deer and elk populations would continue as outlined in Alternative A. Once CWD was detected, a minimum of 50 cervids would be radio-collared in the vicinity of the index case. Tonsil biopsies, or other acceptable live animal test for the diagnosis of CWD, would be conducted on each collared animal. Any radio-marked animals testing positive for CWD would be removed. All radio-marked animals would be located at least once each month for the next 3 years to determine movements and use areas. Additional aerial survey blocks would be added in and around the management area to more accurately determine local population density, composition and distribution. Management area delineation would be responsive to spatial and population data resulting from telemetry monitoring and aerial surveys.
- Disease Management: Disease management would consist of sufficient sample collection to detect a 1% infection rate with 99% confidence. As many samples as possible would be secured from hunter harvest and any balance still required to meet sample size requirements would be collected by authorized agency personnel within 1 year of CWD detection. Should results indicate greater than a 1% infection rate, another collection effort would be implemented during the following year until a sufficient sample size was obtained to again determine the prevalence rate with 99% confidence, or the management area was depopulated. Radio-marked animals, or those less than 6 months old, would not be removed. Should this strategy be successful, and no positive CWD animals detected for 5 consecutive years, population management would return to pre-CWD detection status. Should CWD continue to be detected and prevalence remain  $\leq 1\%$ , hunter and agency collections would continue annually with sufficient collections to have 99% confidence the prevalence rate remains less than 1%. Should estimates suggest CWD prevalence rates greater than 1%, additional management options may be considered.
  - The number of animals, and the proportion of the population, required to achieve a specified detection power varies considerably depending on the estimated size of the population. The estimated size of the population will also vary greatly depending on the size of the management area that is delineated. Hence, the emphasis on population assessment and boundary definition noted above. For example, suppose a management area was defined as 100 square miles, and further suppose a 10 mule deer/square mile density resulting in a population size estimate of 1000 mule deer. A minimum sample of 368 (37% of the population)

would be required to achieve 99% confidence in detecting one positive CWD animal if 1% of the population was infected. Similarly, suppose elk occurred in the same area at a density of 3 elk/square mile and a population size estimate of 300 elk. A sample of 235 (78% of the population) would be required for the same detection power. A more likely scenario for elk might be to consider all elk (~8,000 for example) in the Missouri River Breaks as a single population. A minimum sample of 450 (5.6% of the population) would be needed to have 99% confidence in detecting a 1% CWD prevalence rate using that definition of a population.

### **3.4 Alternative D – Elimination**

Once CWD was detected on or near CMR with current surveillance efforts, the affected population(s) would be reduced through hunter harvest, and agency collection as necessary, to eliminate as many cervids as possible within a 3 mile radius of the index case. All animals would be tested for CWD. Next steps would proceed as outlined in Alternative C, radio-marking 50 cervids in the vicinity and monitoring movements as well as continued mandatory testing of all harvested animals within the designated management zone. Again, the management area would be defined based on expected movement and distribution of the effected population segments. This management zone would likely encompass an area at least 10 miles from the index case and would be tailored to reflect local geographic or geologic features and known movement patterns of cervids. Again, the management area would be adjusted based on telemetry and aerial survey results.

- **Surveillance:** Surveillance would continue as outlined in Alternative A. Once CWD was detected, all harvested deer and elk within the defined management area would be tested for CWD. Hunters harvesting animals within the designated management area would receive specific instruction on handling the carcass and carcass parts and sample submission would be mandatory. All animals collected by agency personnel would also be tested for CWD and carcasses would be disposed of as outlined in Alternative C.
- **Population Assessment:** Post-season aerial surveys of deer and elk populations would continue as outlined in Alternative A. Once CWD was detected, a minimum of 50 cervids would be radio-collared in the vicinity of the index case, post de-population of all cervids within a 3 mile radius of the index case. Tonsil biopsies, or other acceptable live animal test for the diagnosis of CWD, would be conducted on each collared animal. Any radio-marked animals testing positive for CWD would be removed. All radio-marked animals would be located at least once/month for the next 3 years to determine movements and use areas. Additional aerial survey blocks would be added in and around the management area to more accurately determine local population density, composition and distribution. Management area delineation would be responsive to spatial and population data resulting from telemetry monitoring and aerial surveys.
- **Disease Management:** Disease management would consist of depopulation to the extent possible of all cervids within a 3 mile radius of the index case. Liberal seasons for hunters to harvest animals would be used as much as possible, but shooting by authorized personnel would likely be used to remove as many cervids as possible. Removal would be conducted twice each year for 5 years within the approximately 30 square mile zone. Subsequent monitoring and testing of radio-marked deer and testing of all harvested, or

otherwise collected, animals within the management zone that result in any additional positive animals would trigger another cycle of depopulation within a 3 mile radius of that test case, adjustment of management zone delineations and expansion of the monitoring area. The cycle may be repeated, with the goal of CWD elimination, based on our ability to detect its presence and de-populate all cervids within 3 miles of each test case. Radio-marked animals would not be removed as they have been live-tested, and will be monitored for survival. Should this strategy be successful and no positive CWD animals are detected for 5 consecutive years, population management would return to pre-CWD detection status. Otherwise, the depopulation cycle within 3 miles of positive test cases would continue.

### 3.5 **Alternative E – Adaptive Management - Preferred**

This alternative is a combination of Alternatives C and D, based on recommendations of an epidemiological team (epi-team) that will be assembled by MFWP upon detection of CWD. This epi-team will be composed of appropriate personnel regarding site evaluation, cervid population evaluation, public involvement, agency responsibilities and landowner jurisdictions. Based on the location, prevalence, anticipated distribution and other circumstances surrounding detection of CWD on or near CMR, this epi-team will make recommendations on how best to implement elements of Alternatives C and D, based on the best available knowledge and circumstances at the time. Timely and efficient management actions are intended to eliminate CWD positive animals and prevent more widespread distribution of the disease.

- **Surveillance**: Surveillance would continue as outlined in Alternative A. Once CWD was detected, all harvested deer and elk within the defined management area would be tested for CWD. Hunters harvesting animals within the designated management area would receive specific instruction on handling the carcass and carcass parts and sample submission would be mandatory. All animals collected by agency personnel would also be tested for CWD and carcasses would be disposed of as outlined in Alternative C.
- **Population Assessment**: Post-season aerial surveys of deer and elk populations would continue as outlined in Alternative A. Once CWD was detected, a minimum of 50 cervids would be radio-collared in the vicinity of the index case, post population reduction efforts. Tonsil biopsies, or other acceptable live animal test for the diagnosis of CWD, would be conducted on each collared animal. Any radio-marked animals testing positive for CWD would be removed. All radio-marked animals would be located at least once/month for the next 3 years to determine movements and use areas. Additional aerial survey blocks would be added in and around the management area to more accurately determine local population density, composition and distribution. Management area delineation would be responsive to spatial and population data resulting from telemetry monitoring and aerial surveys.
- **Disease Management**: Disease management would consist of population reductions as recommended and agreed upon by the epi-team based on the circumstances and state of knowledge about CWD management at the time. The actions described in Alternatives C and D may be used singly, or in combination. Liberal seasons for hunters to harvest animals would be used as much as possible, but shooting by authorized personnel would likely also be used. Radio-marked animals would not be removed as they have been live-tested, and will be monitored for survival. Should this strategy be successful and no

positive CWD animals are detected for 5 consecutive years, population management would return to pre-CWD detection status. Otherwise, management would continue as recommended and agreed upon by the epi-team.

#### 4.0 AFFECTED ENVIRONMENT

The areas involved are located on the CMR and UL Bend National Wildlife Refuges. The topography consists of flat prairie areas, rolling hills and steep ravines or “breaks” adjacent to the Missouri River/Fort Peck Reservoir. Air quality is excellent. The climate is continental with warm, dry summers and cold winters. The frost-free season is about 120 days. Average annual precipitation is 12 inches.

Vegetation is primarily sagebrush-grassland. Riparian vegetation consists primarily of the plains cottonwood/willow community type. Upland grasses are western wheatgrass, bluebunch wheatgrass, green needle grass, june grass and blue gramma. Major upland shrubs are big sagebrush and greasewood.

A diversity of prairie wildlife occurs. Big game species include mule and white-tailed deer, elk, pronghorn antelope and bighorn sheep. Bird life includes sage and sharp-tailed grouse, prairie passerines and numerous raptors. Burrowing owls, ferruginous hawks and golden eagles nest in the area. Listed candidate, threatened, or endangered species include the bald eagle, piping plover, interior least tern, black-footed ferret, and pallid sturgeon.

Recreation in the project area consists mainly of upland game bird and big game hunting, although some wildlife viewing occurs. Fishing on Fort Peck Reservoir is popular. The economy of the project area is predominately agricultural, livestock grazing and small grain farming. Recreation and tourism also contribute substantially to the economy.

Some historic, paleontological and some important Native American sites occur in the vicinity. Portions of UL Bend NWR are designated Wilderness Areas and there are several proposed Wilderness Areas.

#### 5.0 ENVIRONMENTAL CONSEQUENCES

The ability of any of the alternatives to manage CWD in free-ranging cervids is difficult to predict. The environmental consequences of any action, or inaction, will have cumulative effects that are also hard to predict. The severity of CWD, its distribution and rate of spread should it ever be found in Montana, is unknown, but will assuredly be detrimental to deer and elk populations and the recreational uses of those populations. In addition, changes in ungulate populations caused by CWD, and/or caused by CWD management efforts, will likely have additional environmental effects that will be complex and are difficult to predict. The immediate and short-term consequences of aggressive management actions must be compared to the likely long-term, negative consequences of CWD becoming widespread in cervid populations.

There is potential for the social and economic consequences to be significant. Based on the 1997 publication; "Banking on Nature: The Economic Benefits to Local Communities of National Wildlife Refuge Visitation", visitor recreation-related expenditures for hunting on CMR totaled \$3.3 million during 1995. The number of hunters and harvest of elk and mule deer since then as increased substantially. Regardless of the management alternative selected, CWD has the potential to dramatically alter recreation and economies based on Montana's cervid populations.

### 5.1 **Alternative A – No Action**

Without any intervention to attempt management of the effects of CWD, the environmental consequences of this alternative is a description of the anticipated effects of the disease itself, should it be found in cervid population(s) on or near CMR. Several models have been constructed with differing sets of assumptions about CWD transmission avenues and frequencies along with effects of cervid population density. Some predictions suggest eventual extinction of a CWD infected population. Others expect substantial decreases in cervid abundance over many decades, but likely some persistence of a population, albeit at very reduced densities. Yet another model, incorporating assumed decreased CWD transmission below disease sustainable levels because of insufficient cervid density, suggests management could facilitate eventual CWD eradication. Although in this latter model, future sources of infection from environmental contamination and movement of infected individuals into uninfected populations could sustain CWD.

Without intervention, once CWD was present in a cervid population, it would be expected to increase in prevalence and distribution over time and decrease cervid populations over time. Given the mobility of deer and elk, CWD could be expected to eventually spread to and impact all cervid populations in the state.

Reduced cervid populations resulting from CWD would be expected to result in decreased predator populations in the long term for those species that utilize deer and elk as prey items. There would likely be other cascading environmental consequences in other wildlife and vegetation responses if deer and elk populations were substantially reduced by disease. Those effects would be very complex and cannot now be described or predicted.

The social and economic impacts of this alternative would be expected to parallel cervid population changes. As CWD spreads in distribution and prevalence, reduced recreational opportunities, primarily hunting, and economic effects generated by those recreation activities, would be expected to decline.

### 5.2 **Alternative B – Hunter Harvest Management**

The environmental consequences outlined under Alternative A apply equally to this and all other alternatives, but because management intervention would hopefully be effective, the long term disease effects would be reduced. Immediate environmental consequences occur from the management action itself. Those actions are intended to be relatively short-lived with the long-term goal of returning cervid population levels to pre-CWD status and without the presence of CWD.

Through increased hunter harvest, the goal is to maintain the affected cervid population(s) at 50% of the estimated long-term population levels based on previous surveys. The immediate effect of this management intervention would be reduced cervid populations. Although hunting opportunities and harvest would be increased in the short-term, harvest levels would likely be decreased while the population was maintained at the reduced density. The effect of this management strategy on CWD prevalence and rate of spread is unknown.

Depending on trends in estimated CWD prevalence and rate of spread over time while maintaining a reduced density of cervids, subsequent management actions may be adjusted. If

CWD prevalence decreased to an acceptable level, and there was little evidence of spread, harvest may be reduced and populations allowed to increase and be managed as they were pre-CWD. If CWD prevalence rates steadily increased and/or spread substantially, more aggressive management alternatives would be considered. The potential exists that this less aggressive management strategy could allow CWD to become more firmly established and make future management efforts to control CWD more difficult.

Another concern with this alternative is the degree to which hunters would be willing to provide the harvest necessary to maintain the reduced population density. Based on experiences and surveys from other states, once CWD has been confirmed in a population, there is typically a decrease in hunter interest taking animals from that population. It is unknown if sufficient harvest could be achieved with a public hunt to maintain the targeted population density.

The short-term social and economic consequences of this alternative would be increased recreational opportunity through more liberal harvest regulations, but would likely decline over time as cervid populations were reduced through management actions. If the management strategy outlined in this alternative was successful, long-term social and economic consequences would be few as CWD would be eliminated and/or very limited in distribution. In contrast, should this management strategy fail, and CWD increase in prevalence and/or distribution, more aggressive management efforts in the future may be less effective because of the time delay in implementation. Should this scenario result, long-term social and economic consequences could be more severe and more similar to those outlined for Alternative A.

### 5.3 **Alternative C – Control at less than 1%**

The environmental consequences outlined under Alternative A apply equally to this and all other alternatives, but because management intervention would hopefully be effective, the long term disease effects would be reduced. Immediate environmental consequences occur from the management action itself. Those actions are intended to be relatively short-lived with the long-term goal of returning cervid population levels to pre-CWD status and without the presence of CWD.

It is anticipated there would be a substantial reduction in the affected cervid population(s) through hunter harvest and authorized agency collection. Depending on the estimated prevalence rate, sampling to achieve the desired statistical detection power would likely result in maintenance of a substantially reduced population. The effect of this management strategy on CWD prevalence and rate of spread is unknown, but it is anticipated to have more of an effect on limiting CWD than Alternative B, but less of an effect than Alternative D. Radio-collaring and monitoring a sample of cervids is not expected to have any significant environmental consequences.

Delineation of the management zone will have a substantial impact on the proportion of the population removed for CWD testing. As noted earlier, the larger the population, the lower the proportion of the population that needs to be tested to achieve a specified detection power compared to a smaller population. The larger the management zone, the larger the cervid population size to be monitored.

Like Alternative B, the short-term social and economic consequences of this alternative would be increased recreational opportunity through more liberal harvest regulations, but would certainly

decline quickly as authorized agency collections reduced cervid populations to meet sample size requirements. Reduced recreational opportunities, and the economic streams those activities generate, would be substantially decreased in the short term while cervid populations were maintained at relatively low levels. If the management strategy outlined in this alternative was successful, long-term social and economic consequences would be few as CWD would be eliminated and/or very limited in distribution. In contrast, should this management strategy fail, and CWD increase in prevalence and/or distribution, even more aggressive management efforts in the future may be less effective because of the time delay in implementation. Should this scenario result, long-term social and economic consequences could be more severe and more similar to those outlined for Alternative A.

#### 5.4 **Alternative D – Elimination**

The environmental consequences outlined under Alternative A apply equally to this and all other alternatives, but because management intervention would hopefully be effective, the long term disease effects would be reduced. Immediate environmental consequences occur from the management action itself. Those actions are intended to be relatively short-lived with the long-term goal of returning cervid population levels to pre-CWD status and without the presence of CWD.

Environmental consequences of this alternative would result in greatly reduced cervid populations, with the goal of eradication in roughly 30 square mile focal areas within a 3 mile radius around positive test cases. Recreational opportunities would be reduced. Depending on the number of positive test cases, a number of focal areas could be maintained in a depopulated state for 5 years. While comparatively aggressive, the intent of this alternative is elimination of the disease and maintenance of areas without cervids for only 5 years. After that time, populations would be allowed to recover through natural immigration and reproduction so long as no additional CWD-positive animals were detected. If this strategy was successful in elimination of CWD, the long-term environmental consequences may very well be the least of any of the alternatives for CWD management.

Like Alternatives B and C, the short-term social and economic consequences of this alternative would be increased recreational opportunity through more liberal harvest regulations, but would certainly decline quickly as authorized agency collections substantially reduced cervid populations in an attempt to eliminate CWD. Reduced recreational opportunities, and the economic streams those activities generate, would be substantially decreased in the short term while cervid populations were maintained at very low levels. If the management strategy outlined in this alternative was successful, long-term social and economic consequences would be few as CWD would be eliminated and/or limited in distribution and cervid population would eventually return to pre-CWD detection levels and management regimes. In contrast, should this management strategy fail, and CWD increase in prevalence and/or distribution, long-term social and economic consequences would be similar to those outlined for Alternative A where CWD became well-established and distributed in Montana's cervid populations and management actions were ineffective.

#### 5.5 **Alternative E – Adaptive Management – Preferred**

The environmental consequences outlined under Alternative A apply equally to this and all other alternatives, but because management intervention would hopefully be effective, the long term disease effects would be reduced. Immediate environmental consequences occur from the

management action itself. Those actions are intended to be relatively short-lived with the long-term goal of returning cervid population levels to pre-CWD status and without the presence of CWD. The environmental, social and economic consequences of this alternative would be a combination of those described in Alternatives C and D, depending on the recommendations of the epi-team based on the circumstances and knowledge of CWD management at the time.

#### 6.0 LIST OF PREPARERS

Randy Matchett – Wildlife Biologist, Charles M. Russell National Wildlife Refuge, Lewistown, MT

#### 7.0 CONSULTATION

Preparation of this EA relied heavily on the August, 2005 version of MFWP's Chronic Wasting Disease Management Plan, Draft Environmental Assessment and their September, 2006 Decision Notice: Chronic Wasting Disease Management Plan for Free Ranging Wildlife in Montana. Tim Feldner, MFWP CWD Plan Coordinator, provided helpful comments on earlier drafts of this EA along with Keith Aune (MFWP Chief of Research and Technical Services), Neil Anderson (MFWP Wildlife Lab Supervisor) and Dr. Tom Roffe (FWS Region 6 Chief of Wildlife Health). Comments on an earlier draft were also solicited from all local MFWP area biologists and the three Regional Wildlife Managers.

#### 8.0 SIGNATURES

Refuge Manager

Charles M. Russell NWR

Barron Crawford /s/  
Barron Crawford

Date: June 14, 2007