



United States Department of the Interior

FISH AND WILDLIFE SERVICE

National Elk Refuge
P.O. Box 510
Jackson, Wyoming 83001

Date: May 15, 2002

Reply to: Refuge Biologist, National Elk Refuge

Subject: CWD guidelines

Bruce Smith

To: Regional Refuge Biologist, Wayne King

As I discussed with you by telephone yesterday, WG&FD periodically traps elk in a corral trap (theirs) on NER and transports them to their Sybille Research Station for brucellosis/vaccination studies. Two years ago (2001) we requested that they take precautions to limit potential CWD prion contamination of the NER coincident to the elk trapping and transport. Sybille has been infected with CWD apparently since the late 1960s or early 1970s. As per your request for some guidelines on transport of elk to or from CWD contaminated sites, I offer the following suggestions. First, let me provide you with some additional background on this issue.

Wyoming Game and Fish Department has been conducting research on brucellosis in elk and brucellosis vaccination since the late 1960s. The NER has been the source of research animals for these studies. The state of Wyoming captures elk baited into a corral trap, loads them into horse trailers or stock trucks, and transports them to Sybille -- about a 7-hour trip. There has been limited publicity, until recently, about CWD. Articles appeared in Field and Stream, Fair Chase, Bugle and Wyoming Wildlife magazines during 1999-2001 addressing the growing threat of CWD in game ranged cervids in the western U.S. and Canada, and CWD in free-ranging elk and mule deer in NE Colorado and SE Wyoming. These articles pointed to state of Colorado and Wyoming wildlife research facilities as probable/possible sources of these epizootics. The Ft. Collins, CO facility has been infected with CWD since at least 1967. In the past, that facility had exchanged research cervids with the Sybille Wildlife Research facility north of Laramie, Wyoming. CWD-infected elk and mule deer herds in both states radiate out from the research facilities. These research facilities may or may not be the source of infection in the wild herds. Despite intensive efforts to rid both facilities of CWD, both remain infected and research animals inevitably become symptomatic and die of CWD or are euthanized.

Wyoming continues to conduct brucellosis vaccination experiments on elk. They request to trap and transfer elk from NER to Sybille roughly every other year. Wyoming prefers to capture elk from the NER rather than from their state feedgrounds or from non-feedground elk herds in the state for two reasons. About 75% of the elk that winter on NER spend summer in Yellowstone and Grand Teton National parks. Therefore, NER wintering elk are less available to hunters in fall, as opposed to most other elk herds that largely summer on non-Park Service federal lands. Secondly, elk that winter on the NER have generally been difficult to maintain at or below population objectives by hunting alone. The State deems this surplus a more appropriate source of research animals than other wintering areas or herds.

Two winters ago, when the state requested to trap and transport elk from the NER, we asked that precautions be taken to limit the potential for introducing infectious CWD material from Sybille to NER. I also discussed this at length with Tom Roffe. Our concern is that the vehicles used for transport are vehicles from the Sybille facility. Dr. Terry Kreeger, WG&FD, offered to spray their vehicles with a strong disinfectant, LpH. Tom Roffe agreed that this was the best chemical presently available but added that its effectiveness is not 100%. I obtained literature and discussed our situation with Dr. Richard Race, who has published on effectiveness of LpH in destroying TSE agents. I am sending a copy of his paper published in The Veterinary Journal. In short, the article suggests that complete destruction of infectious material on glassware required 16 hours of soaking in 1% LpH followed by autoclaving for 1 hour at 121degrees C.

This type of disaffection is not possible with horse trailers and stock trucks. Although spraying of vehicles with LpH may degrade or destroy some unknown proportion of any infectious material on the vehicles (likely in mud or animal feces in vehicle tires or undercarriage) complete contact of LpH with all such material may not occur unless vehicles are put on hoists to spray and disinfect them. Additionally, the duration of contact would be limited (certainly not hours) with a spray application. We probably do not know enough about what is required to destroy prions in mud or feces to make a recommendation on how such an effort to disinfect vehicles should be conducted. Given what has occurred recently with CWD in cervids, I recommend that we do not gamble that this form of protection of NER grounds and wildlife is adequate. Short of suspending trapping and transfer of elk from NER to Sybille until more is known about CWD and prion viability following efforts to deactivate or destroy these CWD agents, we should at a minimum require the following.

Future capture and transfer of elk from NER to Sybille should be accomplished in such a way that no vehicles or equipment that have been on the premises of the Sybille facility enter onto NER lands. To accomplish capture and transport would require an intermediate transfer location. Vehicles and equipment that transport elk from NER would transfer elk to vehicles and equipment from or destined for Sybille at this transfer location. Ideally, elk would need to be off-loaded at the transfer site in such a way that Sybille equipment used a different approach to on-load elk from holding corrals. Transport vehicles from NER should not come in contact with Sybille vehicles and equipment.

There may be some additional risk of contamination of NER lands from potentially infectious material transported on lug-soled and other boots that are worn by state personnel on the grounds at Sybille and then also worn at NER. If these can be properly disinfected, that may not be an issue. However, it is an issue if a reliable disinfection protocol is not adhered to. Alternatively, changing boots or other potentially contaminated clothing may be required.

Refuge manager, Barry Reiswig, and I discussed such a protocol with Wyoming personnel in February 2002 before about 35 elk were captured at NER and transported to Sybille. We expressed our concerns about possible introduction of CWD to NER from Sybille. I suggested then that there should exist a written protocol on precautions to be taken to address this issue. The state agreed to develop such a protocol, but we have received nothing as yet.

Given the recent spread of CWD into game farmed and free-ranging herds of cervids in the U.S. and Canada, the Service should proactively develop guidelines on wildlife capture and transport from or to Service lands. Although the chance of transmission or introduction of infectious CWD agents to Service lands may be slight, once such an event occurs, little recourse other than depopulation may remain to mitigate an epizootic. On the National Elk Refuge, this remedy may prove ecologically catastrophic for nationally invaluable resources and to other local and regional interests. Furthermore, refuge grounds may remain infectious for an unknown period of time thereafter.

During the first half of the 20th Century, hundreds of elk were transplanted from the NER and especially Yellowstone National Park to supplement and restore depleted and extirpated herds across North America. Northwest Wyoming was the last stronghold of wild stocks of elk by the early 1900s. Transport of elk from NER to locations other than Sybille ended in 1973 due to concerns over introduction of brucellosis into other parts of the country. Thus, only the Sybille facility has been a recipient of NER elk for almost 30 years. Furthermore, the Jackson herd has not been supplemented, other than through natural dispersal of elk from adjacent herds. The Jackson herd has numbered 10,000-18,000 animals for decades and has not required augmentation.

- ✓ In addition to the above precautions regarding animal transport, the Service should cooperate with state and other federal agencies in routine surveillance of cervid populations for CWD. Early detection of CWD and rapid depopulation of infected herds, as is occurring in Northwest Colorado and Wisconsin, are the best tools presently available to contain CWD outbreaks.

Because CWD would likely be particularly transmissible under the current NER management practices of supplementally feeding large numbers of elk in winter, we might well expect infection rates of CWD to exceed those observed in free-ranging elk in SE Wyoming and NE Colorado, and to approach rates documented on game ranches. The consequences would be enormous and should prompt us to do all we can to protect against CWD from reaching the NER.

CWD and other transmissible diseases constitute an issue of utmost concern to the refuge. Disease issues will be thoroughly addressed in the Jackson Elk and Bison EIS. If we can provide any additional information that may be helpful in preparing Service guidelines or policy, please contact us.