

VIRGINIA DEPARTMENT OF GAME AND INLAND FISHERIES
Management Actions in Response to Chronic Wasting Disease

Executive Summary

The following Response Management Actions are the result of extensive deliberations by the CWD Response Team following confirmation of CWD in a hunter-killed deer from western Frederick County in January 2010. These actions, endorsed by the VDGIF Board on April 20, 2010, are being implemented under the Director's authority per 4VAC-15-20-220.

- 1) Designate an area west of I-81 in Frederick County and the City of Winchester and west of I-81 and north of state route 675 in Shenandoah County as the CWD Containment Area (CA).
- 2) Require mandatory CWD testing of deer harvested in the CA at designated stations on the first 3 Saturdays of the general firearms season (i.e., November 13, 20, 27 in 2010).
- 3) Prohibit feeding of deer year-round in Frederick, Shenandoah, Clarke, and Warren counties, and the City of Winchester. Consider a prohibition statewide during the regulation cycle.
- 4) Prohibit transport of any deer carcass or deer part that originates within the CA out of the CA, except those parts currently allowed under the carcass importation regulation (4VAC15-90-293) and those carcasses or parts being transported to lined landfills, commercial meat processors, or taxidermists within Frederick or Shenandoah counties. Require meat processors, taxidermists, road-kill pickup crews, and waste management service contractors to dispose of all deer wastes from the CA in a lined landfill in Frederick or Shenandoah counties. Promote/encourage disposal of all unused portions of hunter-killed and permit-killed deer carcasses from the CA in a lined landfill within Frederick or Shenandoah counties or at designated collection sites within the CA. Encourage commercial meat processors in Frederick and Shenandoah counties to process deer individually and keep accurate records.
- 5) Prohibit rehabilitation and release of any deer from the CA. Rehabilitated deer in Frederick or Shenandoah counties from outside the CA can only be released in the county of origin.
- 6) In an attempt to reduce the deer population within/near the CA, (a) increase the daily bag limit to 2 either-sex deer during all seasons on private lands in Frederick, Shenandoah, Clarke, and Warren counties, and in the City of Winchester (maintain antlered buck limit of 2 per season), (b) employ the Earn-A-Buck requirement (as currently used in 8 other counties) on private lands in these 4 counties and city, and (c) establish all muzzleloading deer seasons as full season either-sex on private lands in these 4 counties. No changes are currently proposed for the antler rule in Shenandoah County or for public lands in any county.
- 7) Implement a communication plan to target key stakeholders and the public to help them understand basic elements of the disease, support the VDGIF's efforts to contain it, remain calm, continue to hunt, and help with surveillance and population reduction. Communication, education, and outreach are probably the most critical components of a successful, sustained CWD management effort.

CWD RESPONSE TEAM - MEMBERS

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DEPARTMENT OF GAME AND INLAND FISHERIES

CWD RESPONSE MANAGEMENT ACTION

Measure

Delineate an area to be designated as a CWD Containment Area.

Importance of this Measure to CWD Response

The designation of this zone is necessary to delineate the area in which various CWD surveillance and control measures will be implemented, although it should be noted that the CWD Response Plan allows for some management actions to occur beyond the boundaries of the CWD Containment Area if deemed necessary.

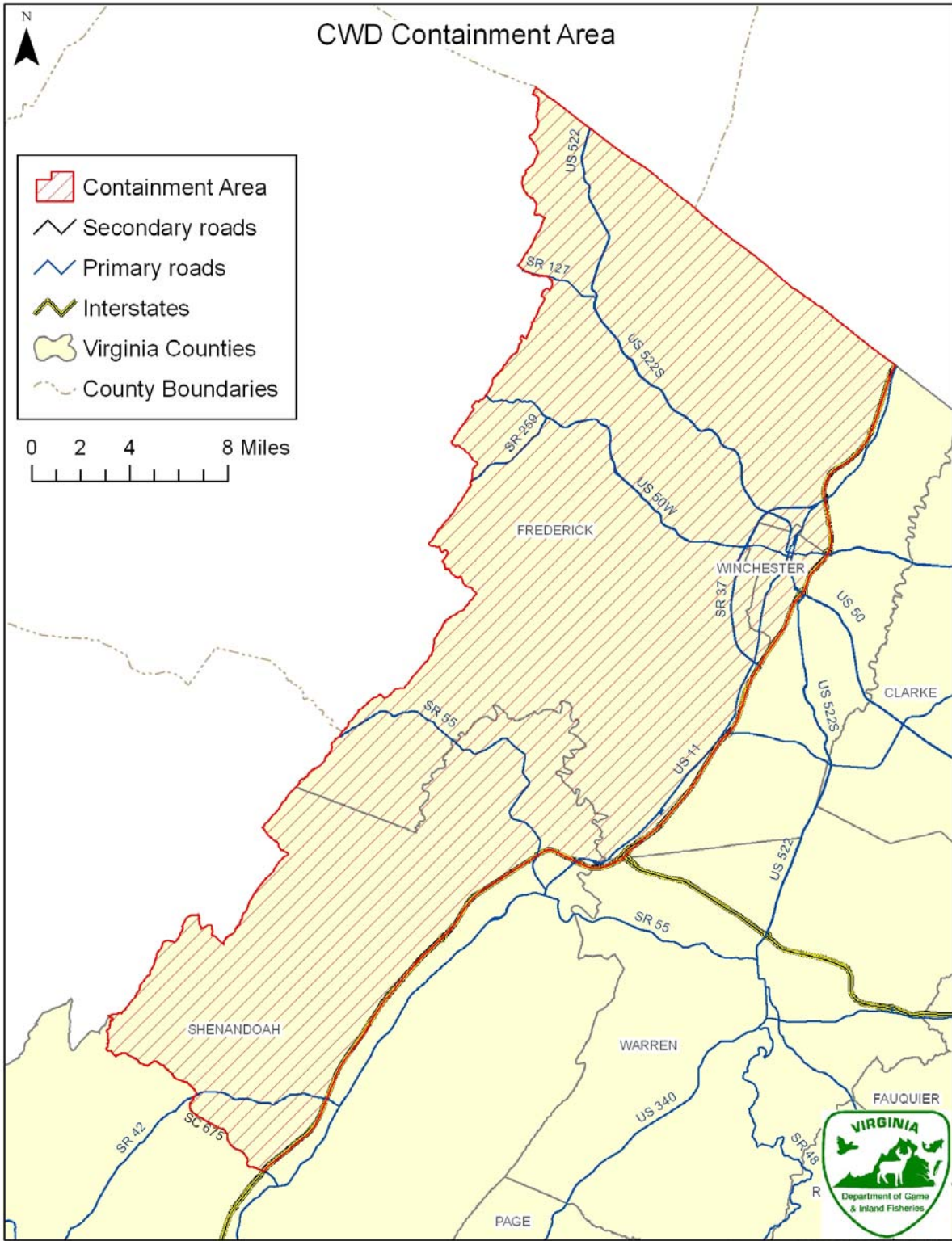
Specific Management Actions Considered

1. Designate a small area close to the CWD positive case in VA and the two closest cases in WV.
2. Designate Frederick County as the CWD Containment Area.
3. Designate the portion of Frederick County located west of Interstate 81 as the CWD Containment Area.
4. Designate the current Surveillance Area (SA) which consists of the area located west of I-81 in Frederick County and the City of Winchester and the area located west of I-81 and north of state route 675 in Shenandoah County as the CWD Containment Area.
5. Designate Frederick & Shenandoah counties as the CWD Containment Area.

Selected Management Action

The following recommendation(s) can be implemented under the Director's authority per 4VAC-15-20-220 and will not require changes to regulations.

Designate the current Surveillance Area (SA) which consists of the area located west of I-81 in Frederick County and the City of Winchester and the area located west of I-81 and north of state route 675 in Shenandoah County as the CWD Containment Area (CA). (See map next page).



Rationale for Selected Management Action

1. The area is our current CWD surveillance area and is easily recognized and identified by our constituents.
2. Due to its size, the area will not likely need to be changed in the near future if more cases of CWD appear on the landscape beyond the current positive case.
3. The Shenandoah County portion of the SA is actually closer to the CWD positive cases than the portion of Frederick County that lies east of I-81. This would be a reason for not simply using all of Frederick County as the Containment Area.
4. Including all of Shenandoah County would unduly impact hunters that are a great distance from the CWD positive cases.
5. This area is big enough around known positive cases to ensure that management actions are biologically meaningful, but not so big that these actions unnecessarily impact deer hunters and the public.

Additional considerations

There are no lined landfills within this area, making carcass movement and disposal recommendations somewhat more complicated.

Department of Game and Inland Fisheries

CWD RESPONSE MANAGEMENT ACTION

Measure

Require mandatory CWD testing on selected days of the firearms deer season within the CWD Containment Area.

Importance of this Measure to CWD Response

Mandatory CWD testing within the CWD Containment Area is designed to meet two CWD management objectives. First, it will assist in determining the prevalence and geographic extent of the CWD infection included within the four five-mile circumference areas designated around known positive animals in Virginia and West Virginia (within five miles of Virginia). Second, it will function to identify any new positive animals within the 492 square mile CWD Containment Area in Virginia. Some form of mandatory CWD testing has been established as a standard response for states/provinces with CWD.

It is important to note that surveillance conducted under this action is a subset of all surveillance strategies that will be outlined in the statewide, annually-revised “Surveillance and Management Plan for Chronic Wasting Disease” (see Additional Considerations section below).

Specific Management Actions Considered

1. Require mandatory CWD testing of hunter killed deer on designated days within the CWD Containment Area.
2. Require that all hunter killed deer be checked at check stations on designated CWD testing days in Frederick and Shenandoah counties (i.e., shut down the telephone and Internet checking systems for Frederick and Shenandoah counties on the designated CWD testing days).
3. Make changes to the Department’s telephone and Internet checking system which would notify deer hunters of the testing requirement and check station locations on the designated days.

Selected Management Action

The following action(s) can be implemented under the Director’s authority per 4VAC-15-20-220 and will not require changes to regulations.

Action 1. During the 2010-2011 deer season require mandatory CWD testing on three designated days during the firearms deer season in the CWD Containment Area. Submission of hunter-killed deer for sampling will be obtained by staffing as many as seven local check stations on the first three Saturdays of the general firearms season (i.e., November 13, 20, 27 in 2010). It is hoped that approximately 200-500 samples can be collected from the CWD Containment

Area on these three days. It is expected that this level of mandatory sampling will be conducted for at least five consecutive years.

Rationale for Selected Management Action

An important issue in requiring mandatory CWD testing is to balance convenience to deer hunters with the Department's CWD management needs. Also important is to make any new testing rules as simple as possible and to make them sustainable over time. This recommendation addresses all of these issues. Opposition to this requirement is expected to be minimal.

Per the Department's CWD Surveillance Plan

(<http://www.dgif.virginia.gov/wildlife/diseases/cwd/cwd-surveillance-and-management-plan.pdf>), male and female adult deer (over 16 months of age) CWD samples will be collected. Samples will not be collected from fawns. Samples will be collected directly from the deer at the check station. Only medial retropharyngeal lymph nodes (RLN) will be collected. If a deer hunter brings in a deer that they are planning to have mounted, testing will be "voluntary." Materials will be developed and handed to these hunters in an attempt to secure CWD samples from these deer heads at a later time/date.

As noted above, the mandatory CWD testing will address two CWD objectives. First it will assist in determining the prevalence and geographic extent of the CWD infection included within the five mile areas designated around known positive animals in Virginia and West Virginia. This area is estimated to be 57.5 square miles (12% of the CWD Containment Area). Based on the estimated prevalence around the three southern five mile circles and the sample size requirement called for in the CWD Response Plan, the necessary sample size for that specific area would be $n = 111$ deer allocated between Virginia ($n = 42$) and West Virginia ($n = 69$). This would provide an error of $\pm 2.4\%$ at 95% confidence. Second, it will function to identify any new positive animals within the remaining 435 miles of the CWD Containment Area in Virginia.

The three Saturdays picked for testing were chosen based on the number of deer killed within Frederick County over the past two deer hunting seasons.

The rationale for not implementing Specific Management Actions #2 and #3, was that team members did not feel that closing down the electronic checking systems was necessary and that any changes made to the system are time consuming and costly. Electronic checking is convenient for hunters. In fall 2009, 77% of deer checked in Frederick County were checked by telephone or Internet. Additionally, allowing hunters to check deer by telephone prior to bringing the deer by the check station should significantly speed up the testing process. The CWD Response Team feels that an adequate public relations campaign can accomplish this objective.

Additional Considerations

Testing costs estimated in Table 1 for the three days of mandatory testing should be considered a maximum estimate. Some personnel may not require lodging and/or two travel days. Also, as

needs dictate, staffing levels may be adjusted down by the second or third testing days. A Complementary Work Force CWD training protocol and CWD training day(s) will be developed and held prior to the 2010 deer hunting season.

Lastly, it must be noted that the three days of mandatory CWD testing referenced in Management Actions above will not be the only CWD surveillance method employed in the CWD Containment Area in fall 2010. Mandatory testing is the focus of this document because this measure necessitates Director's action. Per the annual "Surveillance and Management Plan for Chronic Wasting Disease", DGIF staff will continue to conduct targeted surveillance of clinical suspect deer as well as active surveillance of road-killed, hunter-killed deer, and deer killed on kill permits within and beyond the CWD Containment Area as necessary and as time and resources permit. Special emphasis will be made to acquire samples from within five mile areas of the three West Virginia known positives within five miles of Virginia and the one known positive in Virginia. Drop off sites for voluntary CWD testing of hunter-killed deer, as has been done in the past, may be made available as time and resources permit.

DEPARTMENT OF GAME AND INLAND FISHERIES

CWD RESPONSE MANAGEMENT ACTION

Measure

Prohibit feeding of deer

Importance of this Measure to CWD Response

With respect to CWD and other diseases, the feeding of deer is often considered to be a factor that may provide opportunity for the spread of the disease. Although a direct association between deer feeding and CWD infection has not been proven, experience with other diseases (e.g., tuberculosis in wild deer) and historical models (e.g., CWD in high prevalence herds) suggest that artificial concentration can result in dramatic increases in infection and disease prevalence (D. Meeks, USDA-APHIS, personal communication).

Currently in North America, eight states prohibit feeding of cervids year-round, ten states and one province have certain restrictions, and one state and one province are discussing a ban on feeding. Eight states that currently allow feeding have regulations or authority to regulate feeding tied to CWD and/or other disease issues. Many of these have been enacted since 2002 when CWD was first detected east of the Mississippi river.

Specific Management Actions Considered

- 1) Pursuant to VAC 15-20-220, the Director should immediately prohibit the feeding of deer year-round in the CWD Containment Area.
- 2) Prohibit the feeding of deer year-round in the counties of Frederick, Shenandoah, Clark, and Warren and in the City of Winchester. Provisions would be the same as under Action 1 above. This action was considered based on concerns raised by external reviewers that the CWD Containment Area is too small for a feeding prohibition.
- 3) Section D2 of the Response Plan states that "All Virginia counties that are partially or wholly included within 50-mile radius of the index case will be considered at elevated risk and surveillance will be initiated per the VDGIF CWD Surveillance Plan." As section D2 suggests, areas within a 50-mile radius will be considered at elevated risk for CWD. A 50-mile radius encompasses all or portions of 12 counties in both the northern Shenandoah Valley and Piedmont regions of Virginia. A regulation to prohibit feeding deer in this area would seem consistent with the response plan, but would be cumbersome to create and enforce.
- 4) Consider a regulation prohibiting the feeding of deer year-round, statewide to address: the potential spread of diseases (including CWD) and parasites, fair chase, and the inconsistency feeding presents with wildlife being held in trust for all the citizens of the Commonwealth and not possessed by any one individual.

Selected Management Action

The following action(s) can be implemented under the Director's authority per 4VAC-15-20-220 and will not require changes to regulations.

Implement Action 2 above. Immediately prohibit feeding of deer year-round in Frederick, Shenandoah, Clarke, and Warren counties and in the City of Winchester. This year-round ban should be modeled after 4VAC15-40-285, as follows: No person shall place or distribute food, salt, minerals, or similar substances, to feed or attract deer year-round in Frederick, Shenandoah, Clarke, and Warren counties and in the City of Winchester.

Further, it is recommended that during the 2011 regulation cycle the Deer Committee consider a statewide prohibition on the year-round feeding of deer (Action 4).

Rationale for Selected Management Action

Prohibiting the feeding of deer year-round may reduce the likelihood of CWD spread in the CWD Containment Area and beyond. External reviewers cautioned that the CWD Containment Area may be too small for containing CWD transmission risks related to feeding. In the event that CWD-infected animals have dispersed, or will soon disperse, undetected outside the CWD Containment Area, deer concentrated through feeding could accelerate the spread of the disease. While the discovery of CWD in Frederick County may not justify a year-round ban on deer feeding statewide, a variety of disease issues, concerns about fair chase, human-deer conflicts, and diminishment of wildness in deer by residents who feed them provide reasons for DGIF to consider expansion of the year-round feeding prohibition. Between 1999-2005, feeding big game species has been addressed three times by DGIF's Board of Directors.

Additional Considerations

Several states and Canadian provinces are considering banning the use of attractants containing deer urine or other natural deer products. Saliva and feces are known exposure routes for CWD among deer, and urine is considered a likely pathway.

DEPARTMENT OF GAME AND INLAND FISHERIES

CWD RESPONSE MANAGEMENT ACTION

Measure

Restrict movement and disposal of deer or deer parts

Importance of this Measure to CWD Response

Transmission of CWD is assumed to be by direct and indirect methods. Animal-to-animal contact and/or contamination of feeding/watering sites with infectious saliva, feces, and urine are likely avenues for exposure. Prion contamination of environments likely influences epidemiology and recurrence of CWD (CWD Workshop, Edmonton, Alberta, 2008). Research has shown that prions are very difficult to destroy, surviving extremes of both high and low temperatures, and they can persist in the environment for many years (Saunders et al. 2008).

Therefore, it is imperative that movement of deer and deer parts be restricted to minimize contamination of the environment and to slow the spread of CWD. One recommendation from the CWD Workshop held in Edmonton, Alberta in 2008 was that, once CWD is detected in an area, movement of deer (live or dead) should be limited. Carcass and live-animal movement restrictions are common control methods used by other states and provinces. Workshop attendees considered carcass disposal restrictions important measures for CWD management.

Specific Management Actions Considered

- 1) Restrict movement of deer carcasses from the CWD Containment Area (CA).
Prohibit the movement of any deer carcass or parts of any deer that originates within the CWD CA out of the CWD CA, with certain exceptions.
- 2) Enact additional restrictions on the importation of hunter killed carcasses from outside of Virginia (4VAC15-90-293).
- 3) Place additional restrictions on captive deer facility movements and disposal in Virginia (4VAC15-30-40 and/or permit conditions). Intrastate transfers are now only allowed on a case-by-case basis, so approval for transfers need not be given for any facilities in Frederick or Shenandoah counties.
- 4) Restrict taxidermists processing deer from or within CWD CA. Taxidermists statewide, except those within the CWD CA, should follow the protocol in 4VAC15-90-293. Develop restrictions for taxidermists within the CWD CA.
- 5) Restrict disposal of deer carcasses and waste from the CWD CA. (Two Parts)
Part A: restrict disposal of deer and deer carcasses by commercial meat processors, taxidermists, road-kill pickup crews (VDOT and their contractors), and waste management services. Part B: promote or encourage disposal of all hunter-killed and permit-killed deer carcasses from the CWD CA at a lined landfill or designated waste collection site.

- 6) Recommend additional safe venison handling/processing. Encourage hunters, processors, taxidermists and others (VDOT crews) to follow specific guidelines for handling and processing deer.
- 7) Encourage commercial venison processors to separate carcasses and keep records. Encourage all meat processors receiving deer from the CWD CA to process each deer individually.

Selected Management Action

The following action(s) can be implemented under the Director's authority per 4VAC-15-20-220 and will not require changes to regulations.

Implement Actions #1, #4, #5 and #7.

- (1) Restrict movement of deer carcasses from the CWD Containment Area (CA). No person shall transport out of the CWD CA any deer carcass or parts that originate within the CWD CA, except: **a)** deer carcass parts excepted under 4VAC15-90-293 (see text in Literature Cited below), **b)** deer carcasses or parts transported to a commercial meat processor within Frederick or Shenandoah counties whose waste goes to a lined landfill within those counties, **c)** deer carcasses or parts transported to a taxidermist within Frederick or Shenandoah counties whose waste goes to a lined landfill within those counties, **d)** unused deer carcasses or parts transported to a lined landfill within Frederick or Shenandoah counties, and **e)** deer carcasses or parts transported by staff from VDGIF or another government agency working in an official disease investigation capacity. Provided further under b, c, and d above, that upon leaving the CWD CA, deer carcasses or parts shall be transported without unnecessary delay and remain secured within the transport vehicle(s) until delivered to a lined landfill, taxidermist or processor in Frederick or Shenandoah counties as specified above.
- (4) Restrict taxidermists processing deer from or within CWD CA. Taxidermists statewide, except those in Frederick or Shenandoah counties, shall follow the same protocol for deer coming from the Virginia CWD CA as currently required for deer coming from CWD positive states or provinces (4VAC15-90-293). This protocol has been communicated annually by letter to all taxidermists and includes procedures for proper handling, disposal, clean-up, and notification of VDGIF. Taxidermists in Frederick or Shenandoah counties need not comply with the requirement to notify VDGIF when deer from within the CA are received.
- (5) Restrict disposal of deer carcasses and waste from the CWD CA. (Two Parts)
Part A: Require commercial meat processors, taxidermists, road-kill pickup crews (VDOT and their contractors), and waste management service contractors to dispose of all deer and deer wastes from the CWD CA in a designated lined landfill within Frederick or Shenandoah County or at a designated waste collection site within the CWD CA.
Part B: Promote and/or encourage disposal of all unused portions of hunter-killed and permit-killed deer carcasses from the CWD CA in a designated lined landfill within

Frederick or Shenandoah County or at a designated waste collection site within the CWD CA.

- (7) Encourage commercial venison processors to separate carcasses and keep records. Encourage hunters, processors, and others to follow specific guidelines for handling and processing deer from the CWD CA as outlined in our brochure entitled “Questions and Answers on Chronic Wasting Disease” and on our CWD website. Specifically, encourage all meat processors receiving deer from the CWD CA to process each deer individually, without meat from other animals being mixed together, and to keep accurate records on deer they process (e.g., location of kill, contact info, etc.)

Rationale for Selected Management Actions

Actions #1, #4, and #5 above are intended to slow the spread of CWD into new areas, in particular by restricting the movement of central nervous system tissue (brain, spinal cord, bones, etc.) out of the CWD CA where they might be inadvertently discarded into the environment, thereby possibly contaminating the soil. Disposing of carcasses in a lined landfill is considered the best option for disposal, although small numbers of carcasses can be incinerated (CWD Workshop, Edmonton, Alberta, 2008).

Action #7 is intended to address health and safety concerns or perceptions for persons processing venison and to potentially slow the spread of CWD into new areas by not mixing deer meat from potentially contaminated deer which might be discarded outside of the CWD CA.

The rationale for not implementing Specific Management Actions #2, #3, and #6 above is that these items are already adequately addressed in current laws, regulations, permit conditions, or recommendations delineated elsewhere (e.g., in our brochure or website).

Literature Cited

Saunders, S.E., Bartelt-Hunt, S.L., and Bartz, J.C. 2008. Prions in the environment, occurrence, fate and mitigation. *Landes Bioscience* 2(4).

Bourne, Debra. 2009. CWD culling and carcass disposal, and processing of deer and elk of carcasses: disposal of non-edible portions of individual deer and elk carcasses. http://wildlife1.wildlifeinformation.org/S/00Man/CWDOverviews/O_cwd08diagnosis.htm. Assessed 11 March 2010.

4VAC15-90-293. “Chronic Wasting Disease deer carcass importation restrictions. A. No person shall import or possess any carcass or part...except that the following carcass parts may be imported and possessed:

1. Boned-out meat that is cut and wrapped;
2. Quarters or other portions of meat with no part of the spinal column or skull attached;

3. Hides or capes with no skull attached;
4. Clean (no meat or tissue attached) skull plates with antlers attached;
5. Antlers (with no meat or tissue attached);
6. Upper canine teeth (buglers, whistlers, or ivories); and
7. Finished taxidermy products.

A legible label shall be affixed to packages or containers containing the allowed carcass parts bearing the following information: the species of animal, the state or province from where the animal originated, and the name and address of the person who killed or owned the animal.”

DEPARTMENT OF GAME AND INLAND FISHERIES

CWD RESPONSE MANAGEMENT ACTION

Measure

Restrict deer rehabilitation and release.

Importance of this Measure to CWD Response

Stringent restrictions or complete moratoriums on deer rehabilitation are standard management responses for states/provinces with CWD. The primary concern about movement of deer is the potential spread of CWD prions into new areas.

A CWD workshop in 2008 in Alberta, attended by state and provincial staff with experience managing CWD, produced useful information and guidance on orphaned fawn management:

- Orphan fawns should never be moved into or out of an enzootic or newly detected zone.
- Live-animal tests have not proven useful in detecting CWD in young animals.
- The best disease management practice is to euthanize any potentially infected deer.
- Only rehabilitate fawns if euthanasia is not socially-acceptable.
- If deer must be rehabilitated, release them deep within the enzootic zone.

VDGIF has already established restrictions for rehabilitators because of concerns about spreading CWD and other diseases. Relevant permit conditions that impact deer rehabilitation *statewide* include: (1) “Deer must be released in the county in which they were rehabilitated or in an adjacent county,” and (2) “Due to disease concerns, deer that are brought from outside of Virginia shall not be rehabilitated and shall not be commingled with other deer on premises. Notify VDGIF immediately if a deer is brought in from outside the state.”

During the last several years, we have sent letters to rehabilitators noting additional special restrictions in Frederick and Shenandoah Counties, based on the Director's authority per 4 VAC 15-20-220: (1) no deer older than 6 months can be rehabilitated (must be euthanized), and (2) any deer younger than 6 months that is rehabilitated must be released in the county of origin.

Specific Management Actions Considered

- 1) Retain existing statewide and county-specific restrictions (i.e., Frederick and Shenandoah).
- 2) Require that deer that originate from the CWD Containment Area that are rehabilitated be released in the specific area where they were originally found.
- 3) Require that deer that originate from the CWD Containment Area that are rehabilitated not be commingled with other deer on premises.
- 4) Designate separate rehabilitators inside and outside of the CWD Containment Area boundary; those outside the CA cannot receive deer from inside the CA; those inside the CA can only receive deer from inside the area, can only release deer in the specific area where they were originally found, and cannot commingle individual deer on premises. The only permitted rehabber within the CWD Containment Area is 1 mi west of I-81 in Winchester.

This is the only one in Frederick Co., so a new rehabber east of I-81 would have to be permitted for this approach to mesh with county restrictions (#1 above).

- 5) Prohibit rehabilitation of any deer that originates in the CWD Containment Area; any deer delivered from this area shall not be rehabilitated and shall not be commingled with other deer on premises; VDGIF shall be notified immediately.

Selected Management Action

The following action(s) can be implemented under the Director's authority per 4VAC-15-20-220 and will not require changes to regulations.

Implement Actions #1 and #5 above, as follows:

- (1) Deer that originate in Frederick and Shenandoah Counties outside the CWD Containment Area shall be handled under current provisions; i.e., (1) no deer > 6 mos. old can be rehabilitated (must be euthanized), and (2) any rehabilitated deer < 6 mos. old must be released in the county of origin.
- (5) Deer that originate in the CWD Containment Area shall not be rehabilitated, commingled with other deer on premises, nor released. Any rehabilitator receiving such a deer is to notify VDGIF immediately so arrangements can be made for testing and/or disposal.

Rationale for Selected Management Action

This recommendation balances aggressive risk minimization in the most affected area with reasonable opportunities for deer rehabilitation elsewhere. This approach is consistent with proposed requirements for hunters, road crews, and others regarding movement of carcasses or carcass parts outside of the CWD Containment Area. Prohibition of deer rehabilitation and release is an important component of CWD management in other states and provinces. Opposition to this proposal is expected to be minimal, although some rehabilitators or members of the public may express concerns.

Additional Considerations

A practical concern associated with completely prohibiting rehabilitation in this area is that some citizens, with no legal outlet locally, may transport fawns farther away or treat fawns themselves.

DEPARTMENT OF GAME AND INLAND FISHERIES

CWD RESPONSE MANAGEMENT ACTION

Measure

Reduce the deer population within, and near, the CWD Containment Area.

Importance of this Measure to CWD Response

A common management strategy among most states with CWD is the reduction of deer populations. Although evidence is lacking to conclude that deer population reduction slows transmission of CWD, many biologists and managers agree that it is the primary tool at our disposal (B. Richards, USGS-NWHC, personal communication). In Illinois, where population reduction has been viewed as a long-term, large scale management experiment, results have been promising, but by no means definitive (P. Shelton, IDNR, personal communication).

Population reduction within CWD outbreak zones may be more important for removing sick and susceptible animals from the landscape than for affecting disease transmission as deer density changes (B. Richard, personal comm.). The number of positive deer in an area is important from the perspective that they transmit and secrete prions. Additionally, population reduction could reduce contacts between infected and susceptible individuals and consequently reduce the disease transmission rate. Analysis of spatial data indicates that CWD is clustered on the landscape, from which one could infer that deer near CWD-positive deer are more likely to be infected (Joly et al. 2003.)

Reducing deer populations adjacent to CWD outbreak zones (i.e., at risk areas) may be just as important as doing so within the zone. An analysis of 8 years of Wisconsin data shows that the prevalence of CWD is increasing without regard to deer density in the enzootic area (D. Heisey, USGS-NWHC, unpublished data). However, the Wisconsin data suggest that deer density may play an important role in whether the disease becomes established when it first arrives. A practical conclusion of this analysis would be that population reduction in areas surrounding the outbreak zone could reduce the likelihood the disease will “take” when infected deer disperse from within the zone (B. Richards, personal comm.).

Historically, the northern Shenandoah Valley has had some of the best deer habitat in Virginia, resulting in some of the highest deer densities in the Commonwealth. For years, VDGIF’s Deer Management Plan has established objectives for reducing deer populations in Frederick, Shenandoah, Clark, and Warren counties. Only recently have deer populations in Frederick County begun to show a significant decline. Deer populations in Shenandoah County have showed a similar 10-year trend, though the decline is not statistically significant. Warren and Clark counties have stable deer herds despite having hunting seasons intended to reduce them.

Specific Management Actions Considered

- 1) Implement the daily bag limit of two (2) deer per day, either sex, full season on private lands in Frederick, Shenandoah, Clarke, and Warren counties and in the City of Winchester. (Antlered buck limit of two (2) antlered bucks per season west of the Blue Ridge remains in effect).
- 2) Implement the daily bag limit of two (2) deer per day, either sex, full season on private lands in Shenandoah and Frederick counties. (Antlered buck limit of two (2) antlered bucks per season west of the Blue Ridge remains in effect).
- 3) Implement the daily bag limit of two (2) deer per day, either sex, full season on private lands in the CWD Containment Area, which includes portions of Shenandoah and Frederick counties. (Antlered buck limit of two (2) antlered bucks per season west of the Blue Ridge remains in effect).
- 4) Employ the Earn-a-buck regulation (as currently used in eight Virginia counties) on private lands in Frederick, Shenandoah, Clarke, and Warren counties and in the City of Winchester. At least one antlerless deer must be taken before the second antlered deer of the license year may be taken on private lands.
- 5) Employ the Earn-a-buck regulation (as currently used in eight Virginia counties) on private lands in Shenandoah and Frederick counties. At least one antlerless deer must be taken before the second antlered deer of the license year may be taken on private lands.
- 6) Employ the Earn-A-Buck regulation (as currently used in eight Virginia counties) within the CWD Containment Area in portions of Shenandoah and Frederick counties. At least one antlerless deer must be taken on private lands in the CWD Containment Area before the second antlered deer of the license year may be taken on private lands.
- 7) Eliminate the Shenandoah County Antler Point Restriction (APR) within the CWD Containment Area.
- 8) Use a Two (2) for One (1) Earn-a-buck Program. At least two antlerless deer must be taken on private lands before the second antlered deer of the license year may be taken on private lands.
- 9) No distinction in deer hunting regulations between public and private lands. All lands in Frederick, Shenandoah, Clarke, and Warren counties would be full season either sex.
- 10) No daily bag limit for antlerless deer in the CWD Containment Area.
- 11) Maintain the more conservative current deer hunting regulation structure on public lands in Frederick, Shenandoah, Clarke, and Warren counties

- 12) Establish full season either-sex hunting opportunities during all muzzleloading deer seasons on private lands in Shenandoah County (Frederick, Clarke, and Warren counties currently have a muzzle-loader season with a full season either sex status).
- 13) Conduct localized culling of the deer population around any CWD positive cases.
- 14) Eliminate the APR (Antler Point Restriction) in Shenandoah County if a positive case of CWD is discovered in Shenandoah County.

Selected Management Action

The following action(s) can be implemented under the Director's authority per 4VAC-15-20-220 and will not require changes to regulations.

Implement Actions 1, 4, 11, and 12 above:

- 1) Implement the daily bag limit of two (2) deer per day, either sex, full season on private lands in Frederick, Shenandoah, Clarke, and Warren counties and in the City of Winchester. (Antlered buck limit of two (2) antlered bucks per season west of the Blue Ridge remains in effect).
- 4) Employ the Earn-a-buck regulation (as currently used in eight Virginia counties) on private lands in Frederick, Shenandoah, Clarke, and Warren counties and in the City of Winchester. At least one antlerless deer must be taken before the second antlered deer of the license year may be taken on private lands.
- 11) Maintain the more conservative current deer hunting regulation structure on public lands in Frederick, Shenandoah, Clarke, and Warren counties
- 12) Establish full season either-sex hunting opportunities during all muzzleloading deer seasons on private lands in Shenandoah County (Frederick, Clarke, and Warren counties currently have a muzzle-loader season with a full season either sex status).

Rationale for Selected Management Actions

Experience from other states suggests that deer managers in Virginia should be realistic about the effectiveness of population reduction in managing CWD. However, it is currently considered the best tool at our disposal. Further, doing nothing is not a satisfactory option, as shown by a number of studies that have examined hunters' attitudes toward current and potential strategies for managing CWD (Vaske 2010). Among hunters in most states and studies: (a) testing harvested animals for CWD and using hunters to reduce herds in CWD areas were *acceptable* strategies, (b) agencies taking no action and allowing CWD to take its natural course were considered *unacceptable*, and (c) using agency staff to reduce herds in CWD areas was *controversial*. Hunters also generally supported efforts to minimize spread of CWD and eliminate the disease from animal herds (Vaske 2010).

Two important considerations for a successful CWD management program are: 1) balancing the need for hunter satisfaction and convenience with the need to achieve adequate population impacts, and, 2) ensuring that regulations are as understandable and enforceable as possible. For these reasons, the committee chose to use whole counties for regulation changes rather than the boundaries of the CWD Containment Area. In addition, the committee chose to adopt only those season changes that were believed to make the biggest impact on the deer population without adding measures that might appear effective – or even overly aggressive - but would likely do little to reduce populations (e.g., unlimited bag limits, extended seasons.)

A couple of external reviewers provided information that would recommend season changes over a much larger area than the CWD Containment Area in an attempt to reduce deer populations before the disease arrives. As noted above, reducing the deer population in at-risk areas may be as important as doing so within the outbreak area. Extending the Selected Management Actions to Clarke and Warren counties will also make the proposed Earn-A-Buck requirement and daily bag limit continuous with those currently in place in adjacent Loudoun and Fauquier counties.

Additional Considerations

- 1) Recommended strategies may not be aggressive enough. We currently have a number of counties with the recommended regulations in place. Additional strategies suggested by some team members included: having an unlimited bag limit, extended season length in Shenandoah County to seven weeks and making no distinction between public and private lands. Other team members concluded that these measures would likely have negligible impact on harvest while potentially diminishing public support for CWD management.
- 2) Some CWD Response Team members advocated dropping the current Shenandoah County APR in the CWD Containment Area. Antler point restriction (APR) regulations such as the one currently in place in Shenandoah County are designed to allow more young antlered bucks to survive into older age classes (i.e., Quality Deer Management). However, CWD data collected from Wisconsin, Wyoming and Utah clearly indicate that CWD is more common in older male deer. This is probably due to breeding behaviors associated with mature bucks that bring them into contact with the saliva, urine, and feces of other infected deer. Therefore, any regulation that intentionally selects for older males would appear to be inconsistent with CWD control and management. Other team members countered that (1) we have little data to suggest that the current buck age structure has significantly increased as a result of the APR, (2) any impacts from older bucks on CWD risks in this are minor compared with that which can be achieved through population reduction, and (3) the potential costs in lost public support for CWD management if we remove this popular, hard-won APR regulation may outweigh the likely small benefit that removing it could provide.
- 3) A proposal was made to increase the annual buck limit to 3 (or more) to add additional harvest and increase the buck mortality rate. The rationale for this suggestion was that lower buck densities could reduce overall dispersal activity during the rut. However, lower buck densities are best achieved over the long-term by reducing deer populations, which is accomplished by killing more female deer, not male deer. In addition, increasing buck limits could have the unintended consequence of lowering female harvest as hunters focus more on

the new opportunity to take bucks. In terms of total and percent female harvest, preliminary data suggests that earn-a-buck impacts are similar in areas with a seasonal 2-buck limit (e.g., Roanoke County) and a 3-buck limit (e.g., Bedford, Franklin, and Patrick counties). Further, hunter survey data indicates a clear preference for a seasonal 2-buck limit West of the Blue Ridge.

- 4) The strategy of using localized deer culling around the positive case was discussed by CWD Response Team members. It was decided that this potential strategy may be used if needed as we move forward in the management of CWD. Some experts recommend culling within a specified zone where “new” positive cases of CWD appear outside of the main enzootic area.
- 5) Based on experiences in Wisconsin and other states, external reviewers cautioned us to have realistic expectations about population reduction and the use of hunting seasons to reach CWD management objectives. Within the normal range for wild deer populations, changing deer density is unlikely to have the impacts on CWD transmission that managers formerly thought. Also, while agencies and deer hunters prefer “letting hunters take care of the problem,” it has yet to be demonstrated anywhere within the CWD range that hunters alone will successfully control CWD. In the worst case, long-term, large-scale herd reduction could: 1) fail to stop the spread of CWD, 2) fail to decrease prevalence of CWD, 3) elicit public backlash that will obstruct efforts to reduce deer numbers, and 4) lead to agency and stakeholder fatigue in addressing the disease.
- 6) One DGIF staff reviewer suggested allowing landowners in the CWD Containment Area to apply for a Deer Population Control Program (DPOP) permit or a new DPOP-style permit (i.e., CWD permit) that would allow permitted landowners to harvest as many antlerless deer as they desire (i.e., no bag limit, free tags, and season length could be extended past traditional seasons). Permittees could be required to submit a number of deer for CWD sampling per area of property enrolled.

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DEPARTMENT OF GAME AND INLAND FISHERIES

CWD COMMUNICATION PLAN

Background

In January 2010, the Virginia Department of Game and Inland Fisheries received confirmation that a deer in Frederick County had tested positive for CWD. This was the only positive case out of nearly 4,700 deer tested in Virginia since 2002. This finding prompted DGIF to step up implementation of its CWD Response Plan. The CWD Response Plan had already been activated in 2005 when a CWD positive deer was found in West Virginia within 10 miles of the Virginia state line. Additional elements of the plan were implemented in 2008 following discovery of a positive within 2.5 miles of Virginia.

Some actions that may be taken as a result of CWD being found within the state include a prohibition of feeding deer, mandatory checking or testing within a designated containment area, increased efforts to reduce the deer population, restrictions on movement of deer and carcasses, and restrictions on rehabilitation of deer.

Purpose of the CWD Communications Plan

The public's acceptance of CWD management actions and their compliance with these restrictions will be key to DGIF successfully containing CWD and reducing the risk of the disease spreading within the state. Regulations and other restrictions will be ineffective if stakeholders are not aware of them and understand why it is important to follow them. Communication, education, and outreach are probably the most critical components of our CWD response for a successful, sustained effort.

This communication plan is intended to help the public understand basic elements of the disease, support the agency's efforts to contain it, remain calm, continue to hunt, and help with surveillance and population reduction. With media, we should not take the angle that we don't know the main things about the disease. Even though many details about CWD are not known, we know a lot about the disease. We know that once established in the wild, it is unlikely to be eradicated and that it will likely spread and increase in prevalence on the landscape. Although deer population level impacts are unknown, preliminary evidence suggests it could have long-term consequences to the deer population. It is important to be as factual and consistent in communication of our message as possible, because credibility once lost is hard to regain.

Table 1. Communication needs and actions regarding CWD managements in Virginia for various audiences.

Audiences	Demographics, needs, special issues	Call to Action	Best communication vehicles	Time for Action
DGIF employees and volunteers	statewide; ranges from wildlife professionals and law enforcement officers to technical specialists and administrative personnel	Learn about the disease and be able to explain in general terms to the public; know who to refer for more info	Emails, face-to-face, web, phone	Jan- done Ongoing as needed
Hunter Education volunteers and students	interested in hunting	we want them to hunt and understand CWD	Hunter Ed curriculum (Dodson)	Summer 2010
Wildlife watchers	Want to see healthy wildlife	Understand basics of CWD and cooperate in reporting sick deer	Web, brochure, local chapters and clubs, social media	Summer 2010
Board of Game and Inland Fisheries	Statewide, representing a variety of constituent interests	may have to pass regulations and answer to their constituents therefore they need to understand the issue and their role in implementing this level of the response plan	Board meetings and Board communications	Updates at all Board meetings (done so far)
Hunters, Hunt clubs and sportsmen's groups	resident and out-of- state	we want them to continue to hunt; support regulations, continue to hunt, help with	Hunter digest, web, brochure, license agents, check stations, Licensed hunters with emails can be reached via	May digest Summer and fall 2010 rest.

		surveillance and population reduction	that method, letters to DMAP, sportsmen's groups newsletters, Outdoor Report, Outdoor Shows, CWD Alliance and its partners, social media	
General public, members of affected community	Diverse and limited in CWD knowledge, but generally supportive	support feeding regulations, depopulation efforts, hunting	Web, brochures, media relations, advertising, magazine, Public meeting, social media	Summer 2010
Local government		support efforts within their jurisdictions	Personal contact	Ongoing as needed
Wildlife rehabilitators	Passionate, animal lovers, committed to their work	comply with regulations on rehabbing deer	Letters, site visits, their Fall conference	Spring 2010
Taxidermists	Need buy-in and participation	Acceptance and compliance	Letters, flyers to post, social media, CWD Alliance and National Taxidermists Association	Summer 2010
Processors, Valley Protein	Economic stake	Comply; inform hunters; understand risks; precautions	Personal contacts, letters	Summer 2010
Permit holders who have cervids		Comply	Personal contacts, letters	Spring 2010
Deer carcasses removal (VDOT, contractor)		Comply; understand risks	Personal contacts	Summer 2010
Land fills		Comply; understand risks	Personal contacts	Summer 2010
Legislators	Statewide, they	To support the	Personal contact	Ongoing

SNR/Governor	represent the full range of Virginia interests	agency's efforts and to pass legislation as needed, understand the social and economic impacts of CWD	by Bob Duncan, briefing documents, Sportsman's Caucus	
News Media	Local, regional, state and national; they are deadline driven and need compelling stories	Need for them to be accurate, fair and not foster unwarranted concern	Press releases, story pitches, Main spokespeople on this issue are Nelson Lafon Cale Godfrey Julia Dixon	Ongoing
Hunters for the Hungry	Statewide program that allows hunters to donate all or a part of their harvest to food banks; they rely heavily on these donations	Understand risks; encourage safe handling; work with processors	Personal contact	Summer 2010
Farm Bureau, farmers, VA Coop Extension	Represent agricultural interests statewide including cattle and livestock	Understand risks; communicate our info out	Personal contact, social media	Summer 2010
CWD Alliance	Service to all states and public for CWD info	Accurate and timely info	Personal contact; email	Ongoing
Other State and Federal Agencies	DEQ (land fill/disposal issues), DCR (hunting restrictions), VDACS, National Forest, USDA, National Park Service; VDH	Understand disease basics and provide info to their users; provide grants/financial support	Personal contacts; emails; proposals (work plan with USDA), social media	Ongoing

WV DNR	Joint effort in addressing regional CWD	Need for them to share data, support our efforts	Personal contact	Ongoing
Neighboring States – MD, PA, KY, NC, TN	Hunters from these states will be affected;	Reciprocal carcass regs; info to their hunters	Personal contact	Ongoing
Check stations	Pivotal management and hunter resource	Allow samples collected; inform hunters	Personal; supply brochures, digests	Summer 2010

Cost

Advertising in local newspapers
 Mailings (printing and postage)
 Printing (letters, posters, handouts, brochures)
 Cost of additional pages in hunting seasons digest
 Travel costs for staff

Measurement of success

- Few complaint calls from the public
- Acceptance and compliance by permit holders and processors (rehabbers, taxidermists, etc.)
- Increased deer harvest within CWD Containment Area
- Continued contributions of meat to Hunters for the Hungry
- Participation at check stations in the area
- Understanding by employees (customer service able to answer hunter questions)
- Support, but not alarm, from Administration and Board