

## Midwestern survey about white-tailed deer management and harvest data collection

This is a survey about white-tailed deer management, harvest, and chronic wasting disease data collection. See email from Dan Storm (Wisconsin Department of Natural Resources) for additional information.  
Thank you for your participation!

### State Agency \*

- ☐ Illinois Department of Natural Resources
- ☐ Indiana Department of Natural Resources
- ☐ Iowa Department of Natural Resources
- ☐ Kentucky Department of Fish & Wildlife
- ☐ Michigan Department of Natural Resources
- ☐ Minnesota Department of Natural Resources
- ☐ Missouri Department of Natural Resources
- ☒ Ohio Department of Natural Resources
- ☐ Wisconsin Department of Natural Resources

Name(s), title(s), and email address(es) of biologist(s) completing this survey. \*This will NOT be shared, it is only for follow-up correspondence if necessary. \*

[REDACTED]

### MANAGEMENT SUMMARY

Which generalized description does most ANTLERLESS tag dissemination/allocation fall into in your state: \*

- ☐ "Quota system": hunters can purchase as many tags as they'd like until a quota limit is reached (per spatial unit, such as the state or per county)
- ☒ "Bag system": hunters have a bag limit for a specific spatial unit - more specifically, hunters purchase an approval (often referred to as a 'license'), which allows them to harvest up to a certain number of deer (per spatial unit, such as the state or per county)
- ☐ "Lottery system": hunters purchase entries to a lottery where only a set number of individuals can receive tags (per spatial unit, such as the state or per county)
- ☐ Other: \_\_\_\_\_

Which generalized description does most ANTLERED tag dissemination/allocation fall into in your state? \*

- ☐ "Quota system": hunters can purchase as many tags as they'd like until a quota limit is reached (per spatial unit, such as the state or per county)
- ☒ "Bag system": hunters have a bag limit for a specific spatial unit - more specifically, hunters purchase an approval (often referred to as a 'license'), which allows them to harvest up to a certain number of deer (per spatial unit, such as the state or per county)
- ☐ "Lottery system": hunters purchase entries to a lottery where only a set number of individuals can receive tags (per spatial unit, such as the state or per county)
- ☐ Other: \_\_\_\_\_

Are most deer harvested on private or public land in your state? \*

- ☒ Private
- ☐ Public
- ☐ Unsure

#### HUNTER INFORMATION & HARVEST REGISTRATION

How can hunters obtain tags? (select all that apply) \*

- ☒ On line
- ☒ Over the phone
- ☒ In person
- ☐ By mail
- ☒ Other: you've stumped me on the mail; I will have to ask

Are hunters given a unique identifier in the database that can be tracked longitudinally (i.e., a customer number)? \*

- ☒ Yes
- ☐ No

Is there hunter registration of harvests in your state? \*

- ☒ Yes
- ☐ No
- ☐ Other: \_\_\_\_\_

Is registration mandatory? \*

☒ Yes

☐ No

☐ N/A

☐ Other: \_\_\_\_\_

Is your hunter harvest registration (select all that apply): \*

☒ On line

☒ Over the phone

☒ In person

☐ By mail

☐ N/A

☒ Other: you've stumped me on the mail; I will have to ask

At the deer management unit level (e.g., county), registered harvest can be reported/summarized by (select all that apply): \*

☒ Number of bucks and does harvested

☒ Number of deer harvested by age class (e.g., fawns, adults)

☒ Tag type used to kill the deer

☒ Number of deer killed by season and/or weapon types

Is harvest linked back to individual hunters? For example, using a hunters' unique identifier, you are able to determine if a specific hunter filled their tag(s). \*

☒ Yes

☐ No

If yes above, what information about harvested deer is linked to individual hunters (select all that apply): \*

☒ Deer sex

☒ Deer age

☒ Tag type used to kill the deer

☒ Season they killed the deer in (may correspond to tag type or weapon used)

☒ Unit(s) they harvested deer in

☐ N/A

Does your agency estimate the error in reported harvest? For example, the percent of hunters that do not register their harvests. \*

☐ Yes

☒ No

If yes to above, please briefly state how (e.g., follow-up survey):

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Are hunters surveyed about their hunting experiences, such as hours spent hunting, days spent hunting, number of deer seen, quality of their hunting experience, and/or unit(s) they hunted in that may or may not have resulted in a harvest? \*

☒ Yes

☐ No

If yes to the question above, is this post-hunt survey mandatory? \*

☐ Yes

☒ No

☐ N/A

☐ Other: 

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In what year was hunter-level tag and harvest tracking first available? Please leave this blank if not applicable.

2011 

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#### DATA RESOLUTION

The following questions address the spatial scales at which tags are issued and filled, and the spatial scales these data are recorded. For example, antlered deer tags might be issued and recorded at the state-level (e.g., 450,000 antlered deer tags sold in Wisconsin), while antlered deer harvest might be recorded at the unit-level (e.g., 3,000 antlered deer were harvested in Dane County).

#### TAG ISSUANCE

What is the smallest spatial scale in which ANTLERED deer TAG ISSUANCE is recorded? \*

- ☐ Deer management unit
- ☐ Hunting "zone" or conglomerate of multiple smaller deer management units or counties
- ☐ State
- ☐ This is not recorded
- ☒ Other: To be sure, all tags are va id statewide, but tags are recorded at harvest by county

What is the smallest spatial scale in which ANTLERLESS deer TAG ISSUANCE is recorded? \*

- ☐ Deer management unit
- ☐ Hunting "zone" or conglomerate of multiple smaller deer management units or counties
- ☐ State
- ☐ This is not recorded
- ☒ Other: To be sure, all tags are va id statewide, but tags are recorded at harvest by county

Have there been significant changes to the tag issuance process since 2000? If so, please summarize the change(s) and the year(s) it took place. For example: "Tags were issued at an aggregated spatial scale (i.e., Zone comprising many counties) from 1990-2004, then tags were issued per county from 2005-present".

We have 2 tags, one is either-sex. It is valid statewide. The other is a deer management permit and the list of va id counties changes from time to time.

## DEER HARVEST

What is the smallest spatial scale in which ANTLERED deer HARVEST is recorded? \*

- ☒ Deer management unit
- ☐ Hunting "zone" or conglomerate of multiple smaller deer management units or counties
- ☐ State
- ☐ This is not recorded
- ☐ Other: \_\_\_\_\_

What is the smallest spatial scale in which ANTLERLESS deer HARVEST is recorded? \*

- ☒ Deer management unit
- ☐ Hunting "zone" or conglomerate of multiple smaller deer management units or counties
- ☐ State
- ☐ This is not recorded
- ☐ Other: \_\_\_\_\_

Have there been significant changes to the spatial scale of recorded harvest since 2000? If so, please summarize the change(s) and the year(s) it took place. For example: "From 1986-2012, deer harvests were summed by deer management units (county). From 2013-present, we ask hunters to estimate the coordinates of their harvests in our online registration system using an interactive map."

No \_\_\_\_\_

#### CHRONIC WASTING DISEASE

##### GENERAL

Has your agency surveyed hunters about their opinions/perceptions of CWD with respect to changes in hunting participation? \*

- ☐ Yes
- ☒ No
- ☐ This research is currently underway

Has your agency quantified empirical changes in hunter behavior of TAG ACQUISITION, such as a decrease or increase in the number of tags hunters obtain following an increase in CWD prevalence (using tag issuance data, NOT using survey data)? \*

- ☒ No
- ☐ Yes - we analyzed/are analyzing per capita tag acquisition
- ☐ Yes - we analyzed/are analyzing tag acquisition at the unit-level
- ☐ Yes - we analyzed/are analyzing tag acquisition at the state-level
- ☐ N/A



Has your agency quantified empirical changes in hunter behavior of DEER HARVEST (i.e., filling tags), such as a decrease or increase in the number of tags hunters obtain following an increase in CWD prevalence (using tag issuance data, NOT using survey data)? \*

- ☒ No
- ☐ Yes - we analyzed/are analyzing per capita harvests
- ☐ Yes - we analyzed/are analyzing harvests at the unit-level
- ☐ Yes - we analyzed/are analyzing harvests at the state-level
- ☐ N/A

#### CWD MANAGEMENT

There may be differences in CWD prevalence and management within each state. Here we define 3 CWD scenarios that broadly classify the scale of the disease:

\*Endemic: CWD has persisted for at least 5 years

\*Invasion: CWD was first detected within 5 years

\*Unaffected: CWD has not been detected yet; could also be considered "unknown"

Below, we ask a series of questions for the scenarios where CWD has been detected.

If your entire state is unaffected, please fill out WHAT YOUR AGENCY PLANS TO DO if CWD is detected in the Invasion areas questions and select "N/A" for the Endemic area questions; make sure to only select "Unaffected" for question 1.

Otherwise, if a particular scenario does not occur in your state, please answer "N/A" to those questions.

Response options are simplified in order to focus on the substantial changes an agency may make with respect to CWD management, and smaller changes such as prohibiting baiting are not included.

Which CWD scenarios occur in your state? In other words, which of the following CWD scenarios can management units in your state be classified as? \*  
(select all that apply):

- ☐ Endemic
- ☒ Invasion
- ☒ Unaffected (Unknown)

#### Endemic Areas

Endemic areas: What is your agency's CURRENT management response to CWD, or the CWD management goal? Please select the option(s) that best \*  
represents your agency's current response:

- ☐ Eradication
- ☒ Spatial control (i.e., stop/slow the spread from "hotspots")
- ☐ Increase harvests within designated areas, but no specific goal to control CWD
- ☐ No change in management, but implementation of surveillance program
- ☐ No response or management goal
- ☐ N/A
- ☐ Other: \_\_\_\_\_

Endemic areas: What was your agency's response following the INITIAL detection of CWD in wild deer in your state? Please select the option(s) that best represents your agency's initial response: \*

- ☐ Eradication
- ☐ Spatial control (i.e., stop/slow the spread from "hotspots")
- ☐ Increase harvests within designated areas, but no specific goal to control CWD
- ☐ No change in management, but implementation of surveillance program
- ☐ No response or management goal
- ☒ N/A
- ☐ Other: \_\_\_\_\_

Endemic areas: If your agency response includes or included eradication or spatial control (i.e., past or present), what is the main mechanism of deer removal (select all that apply)? \*

- ☐ Voluntary hunting (i.e., the "standard" management framework)
- ☐ Agency regulated culls/removals
- ☐ Incentivizing or requiring hunters to kill more deer (perhaps of a certain demographic class)
- ☒ N/A
- ☐ Other: \_\_\_\_\_

Endemic areas: If your agency response includes or included eradication or spatial control (i.e., past or present), is or was CWD managed at the SAME spatial scale as the "typical" deer management in your state (e.g., county)? \*

- ☐ Yes
- ☐ No - new, smaller CWD units were created
- ☐ No - new, larger CWD units were created
- ☒ N/A

Endemic areas: If your agency response to CWD detection includes or included no change in management (i.e., past or present), please select the primary rationale(s) (select all that apply): \*

- ☐ Voluntary hunting (i.e., the "standard" management framework) will not result in high enough harvest rates to control CWD
- ☐ CWD cannot be controlled via deer removals
- ☐ Changes in management are too expensive to implement
- ☐ Changes in management are unpopular and we were concerned about stakeholder reactions
- ☐ We do not have the capacity (e.g., staff, funds) to respond to CWD
- ☒ N/A
- ☐ Other: \_\_\_\_\_



Endemic areas: Have there been significant changes to deer management with respect to CWD? If so, please summarize the change(s) and the year(s) it took place. For example: "Deer were managed to eradicate CWD from the time it was first detected in the state (2008) until 2011. It was no longer considered feasible due to low levels of hunter harvest and CWD was increasing. From 2012-present we manage deer for CWD control with high quotas in CWD-affected counties."

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### Invasion Areas

Invasion areas: What is your agency's CURRENT management response to CWD, or the CWD management goal? Please select the option(s) that best represents your agency's current response: \*

- ☐ Eradication
- ☒ Spatial control (i.e., stop/slow the spread from "hotspots")
- ☐ Increase harvests within designated areas, but no specific goal to control CWD
- ☐ No change in management, but implementation of surveillance program
- ☐ No response or management goal
- ☐ N/A
- ☐ Other: \_\_\_\_\_

Invasion areas: If your agency response includes eradication or spatial control, what is the main mechanism of deer removal (select all that apply)? \*

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- ☐ N/A
- ☐ Other: \_\_\_\_\_

Invasion areas: If your agency response includes eradication or spatial control, is CWD managed at the SAME spatial scale as the "typical" deer management in your state (e.g., county)? \*

- ☒ Yes
- ☐ No - new, smaller CWD units were created
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- ☐ N/A

Invasion areas: If your agency response to CWD detection includes no change in management, please select the primary rationale(s) (select all that apply): \*

- ☐ Voluntary hunting (i.e., the "standard" management framework) will not result in high enough harvest rates to control CWD
- ☐ CWD cannot be controlled via deer removals
- ☐ Changes in management are too expensive to implement
- ☐ Changes in management are unpopular and we were concerned about stakeholder reactions
- ☐ We do not have the capacity (e.g., staff, funds) to respond to CWD
- ☒ N/A
- ☐ Other: \_\_\_\_\_

Invasion areas: If there is any additional information about changes in CWD management in invasion areas, or how invasion areas differ from unaffected areas, please summarize the change(s) and the year(s) it took place.

\_\_\_\_\_

#### OTHER

Do you believe your agency would be willing to participate in a regional (Midwest/Great Plains) adaptive white-tailed deer management effort, such as a workshop?

- ☒ Yes
- ☐ No
- ☐ Unsure

Please provide any other information you feel is relevant, if any, about how your agency has recorded/implemented hunting tags, reported harvests, conducted management, etc. since the year 2000.

\_\_\_\_\_

Thank you very much for taking the time to complete this survey!

You may exit your browser after clicking "Submit" below.

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Name(s), title(s), and email address(es) of biologist(s) completing this survey. \*This will NOT be shared, it is only for follow-up correspondence if necessary. \*

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## MANAGEMENT SUMMARY

Which generalized description does most ANTLERLESS tag dissemination/allocation fall into in your state: \*

- ☐ "Quota system": hunters can purchase as many tags as they'd like until a quota limit is reached (per spatial unit, such as the state or per county)
- ☐ "Bag system": hunters have a bag limit for a specific spatial unit - more specifically, hunters purchase an approval (often referred to as a 'license'), which allows them to harvest up to a certain number of deer (per spatial unit, such as the state or per county)
- ☐ "Lottery system": hunters purchase entries to a lottery where only a set number of individuals can receive tags (per spatial unit, such as the state or per county)
- ☒ Other:  
Units with lower deer populations where we seek to limit antlerless harvest use a quota system. Units where we are not trying to limit antlerless harvest are similar to a bag system, where hunters can receive a fixed number of free antlerless tags for the DMUs they choose to hunt. However, hunters in these can also purchase additional tags or purchase tags from units other than the one for which they receive free tags. The number of tags available for purchase in these DMUs are usually abundant enough that they do not sell out.

Which generalized description does most ANTLERED tag dissemination/allocation fall into in your state? \*

- ☐ "Quota system": hunters can purchase as many tags as they'd like until a quota limit is reached (per spatial unit, such as the state or per county)
- ☒ "Bag system": hunters have a bag limit for a specific spatial unit - more specifically, hunters purchase an approval (often referred to as a 'license'), which allows them to harvest up to a certain number of deer (per spatial unit, such as the state or per county)
- ☐ "Lottery system": hunters purchase entries to a lottery where only a set number of individuals can receive tags (per spatial unit, such as the state or per county)
- ☐ Other: \_\_\_\_\_

Are most deer harvested on private or public land in your state? \*

- ☒ Private
- ☐ Public
- ☐ Unsure

#### HUNTER INFORMATION & HARVEST REGISTRATION

How can hunters obtain tags? (select all that apply) \*

- ☒ On line
- ☐ Over the phone
- ☒ In person
- ☐ By mail
- ☐ Other: \_\_\_\_\_

Are hunters given a unique identifier in the database that can be tracked longitudinally (i.e., a customer number)? \*

- ☒ Yes
- ☐ No

Is there hunter registration of harvests in your state? \*

- ☒ Yes
- ☐ No
- ☐ Other: \_\_\_\_\_

Is registration mandatory? \*

☒ Yes

☐ No

☐ N/A

☐ Other: \_\_\_\_\_

Is your hunter harvest registration (select all that apply): \*

☒ On line

☒ Over the phone

☒ In person

☒ By mail

☐ N/A

☐ Other: \_\_\_\_\_

At the deer management unit level (e.g., county), registered harvest can be reported/summarized by (select all that apply): \*

☒ Number of bucks and does harvested

☒ Number of deer harvested by age class (e.g., fawns, adults)

☒ Tag type used to kill the deer

☒ Number of deer killed by season and/or weapon types

Is harvest linked back to individual hunters? For example, using a hunters' unique identifier, you are able to determine if a specific hunter filled their tag(s). \*

☒ Yes

☐ No

If yes above, what information about harvested deer is linked to individual hunters (select all that apply): \*

☒ Deer sex

☒ Deer age

☒ Tag type used to kill the deer

☒ Season they killed the deer in (may correspond to tag type or weapon used)

☒ Unit(s) they harvested deer in

☐ N/A

Does your agency estimate the error in reported harvest? For example, the percent of hunters that do not register their harvests. \*

☒ Yes

☐ No

If yes to above, please briefly state how (e.g., follow-up survey):

post-hunt survey

Are hunters surveyed about their hunting experiences, such as hours spent hunting, days spent hunting, number of deer seen, quality of their hunting experience, and/or unit(s) they hunted in that may or may not have resulted in a harvest? \*

☒ Yes

☐ No

If yes to the question above, is this post-hunt survey mandatory? \*

☐ Yes

☒ No

☐ N/A

☐ Other: \_\_\_\_\_

In what year was hunter-level tag and harvest tracking first available? Please leave this blank if not applicable.

2016

#### DATA RESOLUTION

The following questions address the spatial scales at which tags are issued and filled, and the spatial scales these data are recorded. For example, antlered deer tags might be issued and recorded at the state-level (e.g., 450,000 antlered deer tags sold in Wisconsin), while antlered deer harvest might be recorded at the unit-level (e.g., 3,000 antlered deer were harvested in Dane County).

#### TAG ISSUANCE



What is the smallest spatial scale in which ANTLERED deer TAG ISSUANCE is recorded? \*

- ☐ Deer management unit
- ☐ Hunting "zone" or conglomerate of multiple smaller deer management units or counties
- ☒ State
- ☐ This is not recorded
- ☐ Other: \_\_\_\_\_

What is the smallest spatial scale in which ANTLERLESS deer TAG ISSUANCE is recorded? \*

- ☐ Deer management unit
- ☐ Hunting "zone" or conglomerate of multiple smaller deer management units or counties
- ☒ State
- ☐ This is not recorded
- ☐ Other: \_\_\_\_\_

Have there been significant changes to the tag issuance process since 2000? If so, please summarize the change(s) and the year(s) it took place. For example: "Tags were issued at an aggregated spatial scale (i.e., Zone comprising many counties) from 1990-2004, then tags were issued per county from 2005-present".

Buck tag issuance has largely stayed the same, however the authorized use of buck tags varied with the use of Earn-a-buck regulations. But that is separate from issuance. Antlerless tag issuance has always occurred at the DMU scale in DMUs where antlerless tags are limited. In farmland DMUs, antlerless tags were zone wide, until 2015.

## DEER HARVEST

What is the smallest spatial scale in which ANTLERED deer HARVEST is recorded? \*

- ☒ Deer management unit
- ☐ Hunting "zone" or conglomerate of multiple smaller deer management units or counties
- ☐ State
- ☐ This is not recorded
- ☐ Other: \_\_\_\_\_

What is the smallest spatial scale in which ANTLERLESS deer HARVEST is recorded? \*

- ☒ Deer management unit
- ☐ Hunting "zone" or conglomerate of multiple smaller deer management units or counties
- ☐ State
- ☐ This is not recorded
- ☐ Other: \_\_\_\_\_

Have there been significant changes to the spatial scale of recorded harvest since 2000? If so, please summarize the change(s) and the year(s) it took place. For example: "From 1986-2012, deer harvests were summed by deer management units (county). From 2013-present, we ask hunters to estimate the coordinates of their harvests in our online registration system using an interactive map."

Deer harvest has always been recorded at a DMU level.

#### CHRONIC WASTING DISEASE

##### GENERAL

Has your agency surveyed hunters about their opinions/perceptions of CWD with respect to changes in hunting participation? \*

- ☒ Yes
- ☐ No
- ☐ This research is currently underway

Has your agency quantified empirical changes in hunter behavior of TAG ACQUISITION, such as a decrease or increase in the number of tags hunters obtain following an increase in CWD prevalence (using tag issuance data, NOT using survey data)? \*

- ☐ No
- ☐ Yes - we analyzed/are analyzing per capita tag acquisition
- ☒ Yes - we analyzed/are analyzing tag acquisition at the unit-level
- ☐ Yes - we analyzed/are analyzing tag acquisition at the state-level
- ☐ N/A

Has your agency quantified empirical changes in hunter behavior of DEER HARVEST (i.e., filling tags), such as a decrease or increase in the number of tags hunters obtain following an increase in CWD prevalence (using tag issuance data, NOT using survey data)? \*

- ☐ No
- ☐ Yes - we analyzed/are analyzing per capita harvests
- ☒ Yes - we analyzed/are analyzing harvests at the unit-level
- ☐ Yes - we analyzed/are analyzing harvests at the state-level
- ☐ N/A

#### CWD MANAGEMENT

There may be differences in CWD prevalence and management within each state. Here we define 3 CWD scenarios that broadly classify the scale of the disease:

\*Endemic: CWD has persisted for at least 5 years

\*Invasion: CWD was first detected within 5 years

\*Unaffected: CWD has not been detected yet; could also be considered "unknown"

Below, we ask a series of questions for the scenarios where CWD has been detected.

If your entire state is unaffected, please fill out WHAT YOUR AGENCY PLANS TO DO if CWD is detected in the Invasion areas questions and select "N/A" for the Endemic area questions; make sure to only select "Unaffected" for question 1.

Otherwise, if a particular scenario does not occur in your state, please answer "N/A" to those questions.

Response options are simplified in order to focus on the substantial changes an agency may make with respect to CWD management, and smaller changes such as prohibiting baiting are not included.

Which CWD scenarios occur in your state? In other words, which of the following CWD scenarios can management units in your state be classified as? \*  
(select all that apply):

- ☒ Endemic
- ☒ Invasion
- ☒ Unaffected (Unknown)

#### Endemic Areas

Endemic areas: What is your agency's CURRENT management response to CWD, or the CWD management goal? Please select the option(s) that best \* represents your agency's current response:

- ☐ Eradication
- ☐ Spatial control (i.e., stop/slow the spread from "hotspots")
- ☒ Increase harvests within designated areas, but no specific goal to control CWD
- ☒ No change in management, but implementation of surveillance program
- ☐ No response or management goal
- ☐ N/A
- ☐ Other: \_\_\_\_\_

Endemic areas: What was your agency's response following the INITIAL detection of CWD in wild deer in your state? Please select the option(s) that best represents your agency's initial response: \*

- ☒ Eradication
- ☒ Spatial control (i.e., stop/slow the spread from "hotspots")
- ☐ Increase harvests within designated areas, but no specific goal to control CWD
- ☐ No change in management, but implementation of surveillance program
- ☐ No response or management goal
- ☐ N/A
- ☐ Other: \_\_\_\_\_

Endemic areas: If your agency response includes or included eradication or spatial control (i.e., past or present), what is the main mechanism of deer removal (select all that apply)? \*

- ☒ Voluntary hunting (i.e., the "standard" management framework)
- ☒ Agency regulated culls/removals
- ☒ Incentivizing or requiring hunters to kill more deer (perhaps of a certain demographic class)
- ☐ N/A
- ☐ Other: \_\_\_\_\_

Endemic areas: If your agency response includes or included eradication or spatial control (i.e., past or present), is or was CWD managed at the SAME spatial scale as the "typical" deer management in your state (e.g., county)? \*

- ☐ Yes
- ☒ No - new, smaller CWD units were created
- ☐ No - new, larger CWD units were created
- ☐ N/A

Endemic areas: If your agency response to CWD detection includes or included no change in management (i.e., past or present), please select the primary rationale(s) (select all that apply): \*

- ☐ Voluntary hunting (i.e., the "standard" management framework) will not result in high enough harvest rates to control CWD
- ☐ CWD cannot be controlled via deer removals
- ☐ Changes in management are too expensive to implement
- ☐ Changes in management are unpopular and we were concerned about stakeholder reactions
- ☐ We do not have the capacity (e.g., staff, funds) to respond to CWD
- ☒ N/A
- ☐ Other: \_\_\_\_\_

Endemic areas: Have there been significant changes to deer management with respect to CWD? If so, please summarize the change(s) and the year(s) it took place. For example: "Deer were managed to eradicate CWD from the time it was first detected in the state (2008) until 2011. It was no longer considered feasible due to low levels of hunter harvest and CWD was increasing. From 2012-present we manage deer for CWD control with high quotas in CWD-affected counties."

Upon initial detection of CWD in 2002, harvest seasons and tag allocation were significantly liberalized, such that there was very little limitation on deer harvest. Additionally, EAB was in place (although important to note EAB was widely used in the states for overabundance concerns unrelated to CWD prior to CWD). Limited, localized agency culling was also used. There were explicit deer population goals of 5 or 15 deer per sqmi in CWD DMUs, although significant progress towards these goals was never achieved. These policies generated significant backlash, and the legislature disallowed sharpshooting and EAB in 2009. Since then, harvest management is largely liberalized antlerless tag allocation under standard season frameworks and differs little from non-CWD DMUs with abundant deer populations.

#### Invasion Areas

Invasion areas: What is your agency's CURRENT management response to CWD, or the CWD management goal? Please select the option(s) that best <sup>\*</sup> represents your agency's current response:

- ☐ Eradication
- ☐ Spatial control (i.e., stop/slow the spread from "hotspots")
- ☐ Increase harvests within designated areas, but no specific goal to control CWD
- ☒ No change in management, but implementation of surveillance program
- ☐ No response or management goal
- ☐ N/A
- ☐ Other: \_\_\_\_\_

Invasion areas: If your agency response includes eradication or spatial control, what is the main mechanism of deer removal (select all that apply)? <sup>\*</sup>

- ☐ Voluntary hunting (i.e., the "standard" management framework)
- ☐ Agency regulated culls/removals
- ☐ Incentivizing or requiring hunters to kill more deer (perhaps of a certain demographic class)
- ☒ N/A
- ☐ Other: \_\_\_\_\_

Invasion areas: If your agency response includes eradication or spatial control, is CWD managed at the SAME spatial scale as the "typical" deer management in your state (e.g., county)? <sup>\*</sup>

- ☐ Yes
- ☒ No - new, smaller CWD units were created
- ☐ No - new, larger CWD units were created
- ☐ N/A



Invasion areas: If your agency response to CWD detection includes no change in management, please select the primary rationale(s) (select all that apply): \*

- ☐ Voluntary hunting (i.e., the "standard" management framework) will not result in high enough harvest rates to control CWD
- ☐ CWD cannot be controlled via deer removals
- ☐ Changes in management are too expensive to implement
- ☒ Changes in management are unpopular and we were concerned about stakeholder reactions
- ☐ We do not have the capacity (e.g., staff, funds) to respond to CWD
- ☐ N/A
- ☐ Other: \_\_\_\_\_

Invasion areas: If there is any additional information about changes in CWD management in invasion areas, or how invasion areas differ from unaffected areas, please summarize the change(s) and the year(s) it took place.

Although no new DMUs are created, 'surveillance tags' are sometimes issued across a more localized area around the newly discovered positive. These are usually small in number.

#### OTHER

Do you believe your agency would be willing to participate in a regional (Midwest/Great Plains) adaptive white-tailed deer management effort, such as a workshop?

- ☒ Yes
- ☐ No
- ☐ Unsure

Please provide any other information you feel is relevant, if any, about how your agency has recorded/implemented hunting tags, reported harvests, conducted management, etc. since the year 2000.

Deer management in WI has always been highly contentious and there are management reviews and changes on a relatively frequent basis, thus since 2000, WI deer management has undergone a couple of cycles of major changes. Harvest reporting is somewhat an exception, in that the change to electronic registration was a major change that took place once, and may not change again for the foreseeable future.

Thank you very much for taking the time to complete this survey!

You may exit your browser after clicking "Submit" below.

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# Midwestern survey about white-tailed deer management and harvest data collection

This is a survey about white-tailed deer management, harvest, and chronic wasting disease data collection. See email from Dan Storm (Wisconsin Department of Natural Resources) for additional information.  
Thank you for your participation!

## State Agency \*

- ☐ Illinois Department of Natural Resources
- ☐ Indiana Department of Natural Resources
- ☐ Iowa Department of Natural Resources
- ☐ Kentucky Department of Fish & Wildlife
- ☐ Michigan Department of Natural Resources
- ☒ Minnesota Department of Natural Resources
- ☐ Missouri Department of Natural Resources
- ☐ Ohio Department of Natural Resources
- ☐ Wisconsin Department of Natural Resources

Name(s), title(s), and email address(es) of biologist(s) completing this survey. \*This will NOT be shared, it is only for follow-up correspondence if necessary. \*

[REDACTED]

## MANAGEMENT SUMMARY

Which generalized description does most ANTLERLESS tag dissemination/allocation fall into in your state: \*

- ☐ "Quota system": hunters can purchase as many tags as they'd like until a quota limit is reached (per spatial unit, such as the state or per county)
- ☐ "Bag system": hunters have a bag limit for a specific spatial unit - more specifically, hunters purchase an approval (often referred to as a 'license'), which allows them to harvest up to a certain number of deer (per spatial unit, such as the state or per county)
- ☐ "Lottery system": hunters purchase entries to a lottery where only a set number of individuals can receive tags (per spatial unit, such as the state or per county)
- ☒ Other:  
We are mix of the "bag system" and "lottery system". Some permit areas have a bag limit where additional permits for antlerless deer may be purchased OTC, others are in a lottery designation, hunters must enroll in a lottery to be selected for a limited number of antlerless permits.

Which generalized description does most ANTLERED tag dissemination/allocation fall into in your state? \*

- ☐ "Quota system": hunters can purchase as many tags as they'd like until a quota limit is reached (per spatial unit, such as the state or per county)
- ☒ "Bag system": hunters have a bag limit for a specific spatial unit - more specifically, hunters purchase an approval (often referred to as a 'license'), which allows them to harvest up to a certain number of deer (per spatial unit, such as the state or per county)
- ☐ "Lottery system": hunters purchase entries to a lottery where only a set number of individuals can receive tags (per spatial unit, such as the state or per county)
- ☐ Other: \_\_\_\_\_

Are most deer harvested on private or public land in your state? \*

- ☒ Private
- ☐ Public
- ☐ Unsure

#### HUNTER INFORMATION & HARVEST REGISTRATION

How can hunters obtain tags? (select all that apply) \*

- ☒ On line
- ☒ Over the phone
- ☒ In person
- ☐ By mail
- ☐ Other: \_\_\_\_\_

Are hunters given a unique identifier in the database that can be tracked longitudinally (i.e., a customer number)? \*

- ☒ Yes
- ☐ No

Is there hunter registration of harvests in your state? \*

- ☒ Yes
- ☐ No
- ☐ Other: \_\_\_\_\_

Is registration mandatory? \*

☒ Yes

☐ No

☐ N/A

☐ Other: \_\_\_\_\_

Is your hunter harvest registration (select all that apply): \*

☒ On ine

☒ Over the phone

☒ In person

☐ By mail

☐ N/A

☐ Other: \_\_\_\_\_

At the deer management unit level (e.g., county), registered harvest can be reported/summarized by (select all that apply): \*

☒ Number of bucks and does harvested

☒ Number of deer harvested by age class (e.g., fawns, adults)

☒ Tag type used to kill the deer

☒ Number of deer killed by season and/or weapon types

Is harvest linked back to individual hunters? For example, using a hunters' unique identifier, you are able to determine if a specific hunter filled their tag(s). \*

☒ Yes

☐ No

If yes above, what information about harvested deer is linked to individual hunters (select all that apply): \*

☒ Deer sex

☒ Deer age

☒ Tag type used to kill the deer

☒ Season they killed the deer in (may correspond to tag type or weapon used)

☒ Unit(s) they harvested deer in

☐ N/A

Does your agency estimate the error in reported harvest? For example, the percent of hunters that do not register their harvests. \*

☐ Yes

☒ No

If yes to above, please briefly state how (e.g., follow-up survey):

---

Are hunters surveyed about their hunting experiences, such as hours spent hunting, days spent hunting, number of deer seen, quality of their hunting experience, and/or unit(s) they hunted in that may or may not have resulted in a harvest? \*

☒ Yes

☐ No

If yes to the question above, is this post-hunt survey mandatory? \*

☐ Yes

☐ No

☐ N/A

☒ Other:

The survey isn't mandatory, and it doesn't occur every year, but we commonly survey hunters about their experiences and satisfaction, especially leading up to deer population goal setting.

---

In what year was hunter-level tag and harvest tracking first available? Please leave this blank if not applicable.

IDK, I would need to ask our icense center.

---

## DATA RESOLUTION

The following questions address the spatial scales at which tags are issued and filled, and the spatial scales these data are recorded. For example, antlered deer tags might be issued and recorded at the state-level (e.g., 450,000 antlered deer tags sold in Wisconsin), while antlered deer harvest might be recorded at the unit-level (e.g., 3,000 antlered deer were harvested in Dane County).

## TAG ISSUANCE

What is the smallest spatial scale in which ANTLERED deer TAG ISSUANCE is recorded? \*

- ☒ Deer management unit
- ☐ Hunting "zone" or conglomerate of multiple smaller deer management units or counties
- ☐ State
- ☐ This is not recorded
- ☐ Other: \_\_\_\_\_

What is the smallest spatial scale in which ANTLERLESS deer TAG ISSUANCE is recorded? \*

- ☒ Deer management unit
- ☐ Hunting "zone" or conglomerate of multiple smaller deer management units or counties
- ☐ State
- ☐ This is not recorded
- ☐ Other: \_\_\_\_\_

Have there been significant changes to the tag issuance process since 2000? If so, please summarize the change(s) and the year(s) it took place. For example: "Tags were issued at an aggregated spatial scale (i.e., Zone comprising many counties) from 1990-2004, then tags were issued per county from 2005-present".

Not really, but the boundaries of our deer management units have changed over time, especially in our disease areas. Also beginning in 2020 we allowed 3 bucks to be harvested in the disease management areas, 1 per license (firearms, archery, muzzleloader).

## DEER HARVEST

What is the smallest spatial scale in which ANTLERED deer HARVEST is recorded? \*

- ☒ Deer management unit
- ☐ Hunting "zone" or conglomerate of multiple smaller deer management units or counties
- ☐ State
- ☐ This is not recorded
- ☐ Other: \_\_\_\_\_

What is the smallest spatial scale in which ANTLERLESS deer HARVEST is recorded? \*

- ☒ Deer management unit
- ☐ Hunting "zone" or conglomerate of multiple smaller deer management units or counties
- ☐ State
- ☐ This is not recorded
- ☐ Other: \_\_\_\_\_

Have there been significant changes to the spatial scale of recorded harvest since 2000? If so, please summarize the change(s) and the year(s) it took place. For example: "From 1986-2012, deer harvests were summed by deer management units (county). From 2013-present, we ask hunters to estimate the coordinates of their harvests in our online registration system using an interactive map."

Same comment as above about boundaries of deer management units. Also we do ask hunters coming into CWD sampling stations for harvest location to the T/R/S. But that is only for sampled deer and the regulations regarding when and where hunters are required to get their deer sampled has changed over time.

#### CHRONIC WASTING DISEASE

##### GENERAL

Has your agency surveyed hunters about their opinions/perceptions of CWD with respect to changes in hunting participation? \*

- ☒ Yes
- ☐ No
- ☐ This research is currently underway

Has your agency quantified empirical changes in hunter behavior of TAG ACQUISITION, such as a decrease or increase in the number of tags hunters obtain following an increase in CWD prevalence (using tag issuance data, NOT using survey data)? \*

- ☐ No
- ☐ Yes - we analyzed/are analyzing per capita tag acquisition
- ☐ Yes - we analyzed/are analyzing tag acquisition at the unit-level
- ☐ Yes - we analyzed/are analyzing tag acquisition at the state-level
- ☒ N/A



Has your agency quantified empirical changes in hunter behavior of DEER HARVEST (i.e., filling tags), such as a decrease or increase in the number of tags hunters obtain following an increase in CWD prevalence (using tag issuance data, NOT using survey data)? \*

- ☐ No
- ☐ Yes - we analyzed/are analyzing per capita harvests
- ☐ Yes - we analyzed/are analyzing harvests at the unit-level
- ☐ Yes - we analyzed/are analyzing harvests at the state-level
- ☒ N/A

#### CWD MANAGEMENT

There may be differences in CWD prevalence and management within each state. Here we define 3 CWD scenarios that broadly classify the scale of the disease:

\*Endemic: CWD has persisted for at least 5 years

\*Invasion: CWD was first detected within 5 years

\*Unaffected: CWD has not been detected yet; could also be considered "unknown"

Below, we ask a series of questions for the scenarios where CWD has been detected.

If your entire state is unaffected, please fill out WHAT YOUR AGENCY PLANS TO DO if CWD is detected in the Invasion areas questions and select "N/A" for the Endemic area questions; make sure to only select "Unaffected" for question 1.

Otherwise, if a particular scenario does not occur in your state, please answer "N/A" to those questions.

Response options are simplified in order to focus on the substantial changes an agency may make with respect to CWD management, and smaller changes such as prohibiting baiting are not included.

Which CWD scenarios occur in your state? In other words, which of the following CWD scenarios can management units in your state be classified as? \*  
(select all that apply):

- ☒ Endemic
- ☐ Invasion
- ☐ Unaffected (Unknown)

#### Endemic Areas

Endemic areas: What is your agency's CURRENT management response to CWD, or the CWD management goal? Please select the option(s) that best \* represents your agency's current response:

- ☐ Eradication
- ☒ Spatial control (i.e., stop/slow the spread from "hotspots")
- ☐ Increase harvests within designated areas, but no specific goal to control CWD
- ☐ No change in management, but implementation of surveillance program
- ☐ No response or management goal
- ☐ N/A
- ☐ Other: \_\_\_\_\_

Endemic areas: What was your agency's response following the INITIAL detection of CWD in wild deer in your state? Please select the option(s) that best represents your agency's initial response: \*

- ☐ Eradication
- ☒ Spatial control (i.e., stop/slow the spread from "hotspots")
- ☐ Increase harvests within designated areas, but no specific goal to control CWD
- ☐ No change in management, but implementation of surveillance program
- ☐ No response or management goal
- ☐ N/A
- ☐ Other: \_\_\_\_\_

Endemic areas: If your agency response includes or included eradication or spatial control (i.e., past or present), what is the main mechanism of deer removal (select all that apply)? \*

- ☒ Voluntary hunting (i.e., the "standard" management framework)
- ☒ Agency regulated culls/removals
- ☐ Incentivizing or requiring hunters to kill more deer (perhaps of a certain demographic class)
- ☐ N/A
- ☐ Other: \_\_\_\_\_

Endemic areas: If your agency response includes or included eradication or spatial control (i.e., past or present), is or was CWD managed at the SAME spatial scale as the "typical" deer management in your state (e.g., county)? \*

- ☒ Yes
- ☒ No - new, smaller CWD units were created
- ☒ No - new, larger CWD units were created
- ☐ N/A

Endemic areas: If your agency response to CWD detection includes or included no change in management (i.e., past or present), please select the primary rationale(s) (select all that apply): \*

- ☐ Voluntary hunting (i.e., the "standard" management framework) will not result in high enough harvest rates to control CWD
- ☐ CWD cannot be controlled via deer removals
- ☐ Changes in management are too expensive to implement
- ☐ Changes in management are unpopular and we were concerned about stakeholder reactions
- ☐ We do not have the capacity (e.g., staff, funds) to respond to CWD
- ☒ N/A
- ☐ Other: \_\_\_\_\_

Endemic areas: Have there been significant changes to deer management with respect to CWD? If so, please summarize the change(s) and the year(s) it took place. For example: "Deer were managed to eradicate CWD from the time it was first detected in the state (2008) until 2011. It was no longer considered feasible due to low levels of hunter harvest and CWD was increasing. From 2012-present we manage deer for CWD control with high quotas in CWD-affected counties."

---

### Invasion Areas

Invasion areas: What is your agency's CURRENT management response to CWD, or the CWD management goal? Please select the option(s) that best <sup>\*</sup> represents your agency's current response:

- ☐ Eradication
- ☐ Spatial control (i.e., stop/slow the spread from "hotspots")
- ☐ Increase harvests within designated areas, but no specific goal to control CWD
- ☐ No change in management, but implementation of surveillance program
- ☐ No response or management goal
- ☒ N/A
- ☐ Other: 

---

Invasion areas: If your agency response includes eradication or spatial control, what is the main mechanism of deer removal (select all that apply)? <sup>\*</sup>

- ☐ Voluntary hunting (i.e., the "standard" management framework)
- ☐ Agency regulated culls/removals
- ☐ Incentivizing or requiring hunters to kill more deer (perhaps of a certain demographic class)
- ☒ N/A
- ☐ Other: 

---

Invasion areas: If your agency response includes eradication or spatial control, is CWD managed at the SAME spatial scale as the "typical" deer management in your state (e.g., county)? <sup>\*</sup>

- ☐ Yes
- ☐ No - new, smaller CWD units were created
- ☐ No - new, larger CWD units were created
- ☒ N/A

Invasion areas: If your agency response to CWD detection includes no change in management, please select the primary rationale(s) (select all that apply): \*

- ☐ Voluntary hunting (i.e., the "standard" management framework) will not result in high enough harvest rates to control CWD
- ☐ CWD cannot be controlled via deer removals
- ☐ Changes in management are too expensive to implement
- ☐ Changes in management are unpopular and we were concerned about stakeholder reactions
- ☐ We do not have the capacity (e.g., staff, funds) to respond to CWD
- ☒ N/A
- ☐ Other: \_\_\_\_\_

Invasion areas: If there is any additional information about changes in CWD management in invasion areas, or how invasion areas differ from unaffected areas, please summarize the change(s) and the year(s) it took place.

\_\_\_\_\_

#### OTHER

Do you believe your agency would be willing to participate in a regional (Midwest/Great Plains) adaptive white-tailed deer management effort, such as a workshop?

- ☒ Yes
- ☐ No
- ☐ Unsure

Please provide any other information you feel is relevant, if any, about how your agency has recorded/implemented hunting tags, reported harvests, conducted management, etc. since the year 2000.

In general we've had to adapt as numerous detections in both wild and farmed deer have sprung up around the state, but have maintained an aggressive response.

Thank you very much for taking the time to complete this survey!

You may exit your browser after clicking "Submit" below.

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## Midwestern survey about white-tailed deer management and harvest data collection

This is a survey about white-tailed deer management, harvest, and chronic wasting disease data collection. See email from Dan Storm (Wisconsin Department of Natural Resources) for additional information.  
Thank you for your participation!

### State Agency \*

- ☐ Illinois Department of Natural Resources
- ☐ Indiana Department of Natural Resources
- ☐ Iowa Department of Natural Resources
- ☐ Kentucky Department of Fish & Wildlife
- ☒ Michigan Department of Natural Resources
- ☐ Minnesota Department of Natural Resources
- ☐ Missouri Department of Natural Resources
- ☐ Ohio Department of Natural Resources
- ☐ Wisconsin Department of Natural Resources

Name(s), title(s), and email address(es) of biologist(s) completing this survey. \*This will NOT be shared, it is only for follow-up correspondence if necessary. \*

██████████

### MANAGEMENT SUMMARY

Which generalized description does most ANTLERLESS tag dissemination/allocation fall into in your state: \*

- ☐ "Quota system": hunters can purchase as many tags as they'd like until a quota limit is reached (per spatial unit, such as the state or per county)
- ☐ "Bag system": hunters have a bag limit for a specific spatial unit - more specifically, hunters purchase an approval (often referred to as a 'license'), which allows them to harvest up to a certain number of deer (per spatial unit, such as the state or per county)
- ☐ "Lottery system": hunters purchase entries to a lottery where only a set number of individuals can receive tags (per spatial unit, such as the state or per county)
- ☒ Other:  
It has changed. Several years ago, we were in a "quota system" where hunters could apply for a tag and buy leftovers if the quota remained unfilled. Recently, we switched to more of a "bag system", with overall numbers being very high throughout much of Michigan.

Which generalized description does most ANTLERED tag dissemination/allocation fall into in your state? \*

- ☐ "Quota system": hunters can purchase as many tags as they'd like until a quota limit is reached (per spatial unit, such as the state or per county)
- ☒ "Bag system": hunters have a bag limit for a specific spatial unit - more specifically, hunters purchase an approval (often referred to as a 'license'), which allows them to harvest up to a certain number of deer (per spatial unit, such as the state or per county)
- ☐ "Lottery system": hunters purchase entries to a lottery where only a set number of individuals can receive tags (per spatial unit, such as the state or per county)
- ☐ Other: \_\_\_\_\_

Are most deer harvested on private or public land in your state? \*

- ☒ Private
- ☐ Public
- ☐ Unsure

#### HUNTER INFORMATION & HARVEST REGISTRATION

How can hunters obtain tags? (select all that apply) \*

- ☒ Online
- ☒ Over the phone
- ☒ In person
- ☒ By mail
- ☐ Other: \_\_\_\_\_

Are hunters given a unique identifier in the database that can be tracked longitudinally (i.e., a customer number)? \*

- ☒ Yes
- ☐ No

Is there hunter registration of harvests in your state? \*

- ☐ Yes
- ☐ No
- ☒ Other: Piloted for the first time last year. Anticipate registration of harvests to be mandatory beginning this year.



Is registration mandatory? \*

☐ Yes

☐ No

☐ N/A

☒ Other: Yes, it will be, but historically was not available.

Is your hunter harvest registration (select all that apply): \*

☒ On ine

☐ Over the phone

☐ In person

☐ By mail

☐ N/A

☐ Other:

At the deer management unit level (e.g., county), registered harvest can be reported/summarized by (select all that apply): \*

☒ Number of bucks and does harvested

☒ Number of deer harvested by age class (e.g., fawns, adults)

☒ Tag type used to kill the deer

☒ Number of deer killed by season and/or weapon types

Is harvest linked back to individual hunters? For example, using a hunters' unique identifier, you are able to determine if a specific hunter filled their tag(s). \*

☒ Yes

☐ No

If yes above, what information about harvested deer is linked to individual hunters (select all that apply): \*

☒ Deer sex

☒ Deer age

☒ Tag type used to kill the deer

☒ Season they killed the deer in (may correspond to tag type or weapon used)

☒ Unit(s) they harvested deer in

☐ N/A

Does your agency estimate the error in reported harvest? For example, the percent of hunters that do not register their harvests. \*

☒ Yes

☐ No

If yes to above, please briefly state how (e.g., follow-up survey):

Historically, all of our harvest estimates are based from a post-season mail survey. With the onset of mandatory harvest reporting, we anticipate continuing this mail survey after the season, albeit in a reduced fashion, to correct for noncompliance with harvest and develop a true estimate.

Are hunters surveyed about their hunting experiences, such as hours spent hunting, days spent hunting, number of deer seen, quality of their hunting experience, and/or unit(s) they hunted in that may or may not have resulted in a harvest? \*

☒ Yes

☐ No

If yes to the question above, is this post-hunt survey mandatory? \*

☐ Yes

☒ No

☐ N/A

☐ Other: \_\_\_\_\_

In what year was hunter-level tag and harvest tracking first available? Please leave this blank if not applicable.

We've not been able to track this in recent history, but should be able to connect tags with harvest under the new system.

## DATA RESOLUTION

The following questions address the spatial scales at which tags are issued and filled, and the spatial scales these data are recorded. For example, antlered deer tags might be issued and recorded at the state-level (e.g., 450,000 antlered deer tags sold in Wisconsin), while antlered deer harvest might be recorded at the unit-level (e.g., 3,000 antlered deer were harvested in Dane County).

## TAG ISSUANCE

What is the smallest spatial scale in which ANTLERED deer TAG ISSUANCE is recorded? \*

- ☐ Deer management unit
- ☐ Hunting "zone" or conglomerate of multiple smaller deer management units or counties
- ☒ State
- ☐ This is not recorded
- ☐ Other: \_\_\_\_\_

What is the smallest spatial scale in which ANTLERLESS deer TAG ISSUANCE is recorded? \*

- ☐ Deer management unit
- ☐ Hunting "zone" or conglomerate of multiple smaller deer management units or counties
- ☐ State
- ☐ This is not recorded
- ☒ Other:

Prior to last year, antlerless licenses were issued by land type (public or private) within each deer management unit. We recently transitioned to a universal antlerless tag that is good for any open unit in the state (some DMU's remained closed to antlerless harvest).

Have there been significant changes to the tag issuance process since 2000? If so, please summarize the change(s) and the year(s) it took place. For example: "Tags were issued at an aggregated spatial scale (i.e., Zone comprising many counties) from 1990-2004, then tags were issued per county from 2005-present".

Yes, a lot of changes in the past few years. Historic quotas were developed for both private land and public land in each DMU. We had over 100 different antlerless license types (e.g. DMU 332 public, DMU 332 private, DMU 033 public, etc). This past year we adopted an antlerless license structure that allows for antlerless licenses to be good in any open unit on any land type across Michigan.

## DEER HARVEST

What is the smallest spatial scale in which ANTLERED deer HARVEST is recorded? \*

- ☒ Deer management unit
- ☐ Hunting "zone" or conglomerate of multiple smaller deer management units or counties
- ☐ State
- ☐ This is not recorded
- ☐ Other: \_\_\_\_\_

What is the smallest spatial scale in which ANTLERLESS deer HARVEST is recorded? \*

- ☒ Deer management unit
- ☐ Hunting "zone" or conglomerate of multiple smaller deer management units or counties
- ☐ State
- ☐ This is not recorded
- ☐ Other: \_\_\_\_\_

Have there been significant changes to the spatial scale of recorded harvest since 2000? If so, please summarize the change(s) and the year(s) it took place. For example: "From 1986-2012, deer harvests were summed by deer management units (county). From 2013-present, we ask hunters to estimate the coordinates of their harvests in our online registration system using an interactive map."

While our Deer Management Units may change slightly, we still attempt to estimate harvest to DMU and/or County level in all instances.

## CHRONIC WASTING DISEASE

### GENERAL

Has your agency surveyed hunters about their opinions/perceptions of CWD with respect to changes in hunting participation? \*

- ☒ Yes
- ☐ No
- ☐ This research is currently underway

Has your agency quantified empirical changes in hunter behavior of TAG ACQUISITION, such as a decrease or increase in the number of tags hunters obtain following an increase in CWD prevalence (using tag issuance data, NOT using survey data)? \*

- ☐ No
- ☐ Yes - we analyzed/are analyzing per capita tag acquisition
- ☒ Yes - we analyzed/are analyzing tag acquisition at the unit-level
- ☐ Yes - we analyzed/are analyzing tag acquisition at the state-level
- ☐ N/A

Has your agency quantified empirical changes in hunter behavior of DEER HARVEST (i.e., filling tags), such as a decrease or increase in the number of tags hunters obtain following an increase in CWD prevalence (using tag issuance data, NOT using survey data)? \*

- ☒ No
- ☐ Yes - we analyzed/are analyzing per capita harvests
- ☐ Yes - we analyzed/are analyzing harvests at the unit-level
- ☐ Yes - we analyzed/are analyzing harvests at the state-level
- ☐ N/A

#### CWD MANAGEMENT

There may be differences in CWD prevalence and management within each state. Here we define 3 CWD scenarios that broadly classify the scale of the disease:

\*Endemic: CWD has persisted for at least 5 years

\*Invasion: CWD was first detected within 5 years

\*Unaffected: CWD has not been detected yet; could also be considered "unknown"

Below, we ask a series of questions for the scenarios where CWD has been detected.

If your entire state is unaffected, please fill out WHAT YOUR AGENCY PLANS TO DO if CWD is detected in the Invasion areas questions and select "N/A" for the Endemic area questions; make sure to only select "Unaffected" for question 1.

Otherwise, if a particular scenario does not occur in your state, please answer "N/A" to those questions.

Response options are simplified in order to focus on the substantial changes an agency may make with respect to CWD management, and smaller changes such as prohibiting baiting are not included.

Which CWD scenarios occur in your state? In other words, which of the following CWD scenarios can management units in your state be classified as? \*  
(select all that apply):

- ☒ Endemic
- ☒ Invasion
- ☒ Unaffected (Unknown)

#### Endemic Areas

Endemic areas: What is your agency's CURRENT management response to CWD, or the CWD management goal? Please select the option(s) that best \*  
represents your agency's current response:

- ☐ Eradication
- ☐ Spatial control (i.e., stop/slow the spread from "hotspots")
- ☒ Increase harvests within designated areas, but no specific goal to control CWD
- ☒ No change in management, but implementation of surveillance program
- ☐ No response or management goal
- ☐ N/A
- ☒ Other:  
We did liberalize regulations dramatically in the endemic zone, but have realized that hunting has limited applicability in terms of its ability to control the disease.

Endemic areas: What was your agency's response following the INITIAL detection of CWD in wild deer in your state? Please select the option(s) that best represents your agency's initial response: \*

- ☐ Eradication
- ☒ Spatial control (i.e., stop/slow the spread from "hotspots")
- ☒ Increase harvests within designated areas, but no specific goal to control CWD
- ☐ No change in management, but implementation of surveillance program
- ☐ No response or management goal
- ☐ N/A
- ☐ Other: \_\_\_\_\_

Endemic areas: If your agency response includes or included eradication or spatial control (i.e., past or present), what is the main mechanism of deer removal (select all that apply)? \*

- ☒ Voluntary hunting (i.e., the "standard" management framework)
- ☐ Agency regulated culls/removals
- ☒ Incentivizing or requiring hunters to kill more deer (perhaps of a certain demographic class)
- ☐ N/A
- ☐ Other: \_\_\_\_\_

Endemic areas: If your agency response includes or included eradication or spatial control (i.e., past or present), is or was CWD managed at the SAME spatial scale as the "typical" deer management in your state (e.g., county)? \*

- ☐ Yes
- ☐ No - new, smaller CWD units were created
- ☒ No - new, larger CWD units were created
- ☐ N/A

Endemic areas: If your agency response to CWD detection includes or included no change in management (i.e., past or present), please select the primary rationale(s) (select all that apply): \*

- ☐ Voluntary hunting (i.e., the "standard" management framework) will not result in high enough harvest rates to control CWD
- ☐ CWD cannot be controlled via deer removals
- ☐ Changes in management are too expensive to implement
- ☐ Changes in management are unpopular and we were concerned about stakeholder reactions
- ☐ We do not have the capacity (e.g., staff, funds) to respond to CWD
- ☒ N/A
- ☐ Other: \_\_\_\_\_



Endemic areas: Have there been significant changes to deer management with respect to CWD? If so, please summarize the change(s) and the year(s) it took place. For example: "Deer were managed to eradicate CWD from the time it was first detected in the state (2008) until 2011. It was no longer considered feasible due to low levels of hunter harvest and CWD was increasing. From 2012-present we manage deer for CWD control with high quotas in CWD-affected counties."

When CWD was first discovered in Montcalm County, it was found in fairly large numbers and across a wide geographic area. We realized that sharpshooting across a wide area would not be an option. We liberalized deer regulations dramatically to assist with opportunity for hunters to take deer. In 2019, after pressure from deer groups, our Commission enacted a 3 year pilot study to investigate the impacts of antler point restrictions on harvest and deer demographics. Resulting data will be loaded into existing CWD spread models to determine if APRs are more likely to increase spread, decrease spread, or have no impact.

#### Invasion Areas

Invasion areas: What is your agency's CURRENT management response to CWD, or the CWD management goal? Please select the option(s) that best <sup>\*</sup> represents your agency's current response:

- ☒ Eradication
- ☒ Spatial control (i.e., stop/slow the spread from "hotspots")
- ☐ Increase harvests within designated areas, but no specific goal to control CWD
- ☐ No change in management, but implementation of surveillance program
- ☐ No response or management goal
- ☐ N/A
- ☐ Other: \_\_\_\_\_

Invasion areas: If your agency response includes eradication or spatial control, what is the main mechanism of deer removal (select all that apply)? <sup>\*</sup>

- ☒ Voluntary hunting (i.e., the "standard" management framework)
- ☒ Agency regulated culls/removals
- ☐ Incentivizing or requiring hunters to kill more deer (perhaps of a certain demographic class)
- ☐ N/A
- ☐ Other: \_\_\_\_\_

Invasion areas: If your agency response includes eradication or spatial control, is CWD managed at the SAME spatial scale as the "typical" deer management in your state (e.g., county)? <sup>\*</sup>

- ☐ Yes
- ☒ No - new, smaller CWD units were created
- ☐ No - new, larger CWD units were created
- ☐ N/A

Invasion areas: If your agency response to CWD detection includes no change in management, please select the primary rationale(s) (select all that apply): \*

- ☐ Voluntary hunting (i.e., the "standard" management framework) will not result in high enough harvest rates to control CWD
- ☐ CWD cannot be controlled via deer removals
- ☐ Changes in management are too expensive to implement
- ☐ Changes in management are unpopular and we were concerned about stakeholder reactions
- ☐ We do not have the capacity (e.g., staff, funds) to respond to CWD
- ☒ N/A
- ☐ Other: \_\_\_\_\_

Invasion areas: If there is any additional information about changes in CWD management in invasion areas, or how invasion areas differ from unaffected areas, please summarize the change(s) and the year(s) it took place.

We have had success in our first CWD area (Ingham County) where high numbers of deer were removed with sharpshooting the first couple years. We have not identified CWD in at least 5 years. We are actively using shooting programs in Jackson and parts of Gratiot County where CWD has been identified in either very low numbers or fine spatial distribution.

#### OTHER

Do you believe your agency would be willing to participate in a regional (Midwest/Great Plains) adaptive white-tailed deer management effort, such as a workshop?

- ☒ Yes
- ☐ No
- ☐ Unsure

Please provide any other information you feel is relevant, if any, about how your agency has recorded/implemented hunting tags, reported harvests, conducted management, etc. since the year 2000.

Our biggest changes have occurred since 2020. With fewer hunters since 2000 and fewer hunters projected in the future, we felt it was important to begin to transition into a management framework that allows for opportunity and flexibility from a hunter's standpoint in how they can harvest deer. Our liberalized regulations, including the allowance for hunters to take antlerless deer on traditional buck tags during the firearms and muzzleloader seasons, have allowed antlerless harvest to increase from 2020 to 2021 (2021 data pending). Managing population growth is one of our largest concerns with the lack of hunters, and making changes that increase the opportunity for hunter success, particularly antlerless deer, is one of our biggest priorities. The Upper Peninsula presents different set of challenges, with traditional mindset (i.e. protect all does) making it difficult to implement changes across a meaningful geographic area.

Thank you very much for taking the time to complete this survey!

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Google Forms

## Midwestern survey about white-tailed deer management and harvest data collection

This is a survey about white-tailed deer management, harvest, and chronic wasting disease data collection. See email from Dan Storm (Wisconsin Department of Natural Resources) for additional information.  
Thank you for your participation!

### State Agency \*

- ☐ Illinois Department of Natural Resources
- ☐ Indiana Department of Natural Resources
- ☐ Iowa Department of Natural Resources
- ☐ Kentucky Department of Fish & Wildlife
- ☐ Michigan Department of Natural Resources
- ☐ Minnesota Department of Natural Resources
- ☒ Missouri Department of Natural Resources
- ☐ Ohio Department of Natural Resources
- ☐ Wisconsin Department of Natural Resources

Name(s), title(s), and email address(es) of biologist(s) completing this survey. \*This will NOT be shared, it is only for follow-up correspondence if necessary. \*

[REDACTED]

### MANAGEMENT SUMMARY

Which generalized description does most ANTLERLESS tag dissemination/allocation fall into in your state: \*

"Quota system": hunters can purchase as many tags as they'd like until a quota limit is reached (per spatial unit, such as the state or per county)

- ☒ "Bag system": hunters have a bag limit for a specific spatial unit - more specifically, hunters purchase an approval (often referred to as a 'license'), which allows them to harvest up to a certain number of deer (per spatial unit, such as the state or per county)

"Lottery system": hunters purchase entries to a lottery where only a set number of individuals can receive tags (per spatial unit, such as the state or per county)

Other:

Which generalized description does most ANTLERED tag dissemination/allocation fall into in your state? \*

- ☐ "Quota system": hunters can purchase as many tags as they'd like until a quota limit is reached (per spatial unit, such as the state or per county)
- ☒ "Bag system": hunters have a bag limit for a specific spatial unit - more specifically, hunters purchase an approval (often referred to as a 'license'), which allows them to harvest up to a certain number of deer (per spatial unit, such as the state or per county)
- ☐ "Lottery system": hunters purchase entries to a lottery where only a set number of individuals can receive tags (per spatial unit, such as the state or per county)
- ☐ Other: \_\_\_\_\_

Are most deer harvested on private or public land in your state? \*

- ☒ Private
- ☐ Public
- ☐ Unsure

#### HUNTER INFORMATION & HARVEST REGISTRATION

How can hunters obtain tags? (select all that apply) \*

- ☒ On line
- ☒ Over the phone
- ☒ In person
- ☐ By mail
- ☒ Other: Regarding purchasing permits online, hunters can do so on our website or using our MOHunting App.

Are hunters given a unique identifier in the database that can be tracked longitudinally (i.e., a customer number)? \*

- ☒ Yes
- ☐ No

Is there hunter registration of harvests in your state? \*

- ☒ Yes
- ☐ No
- ☐ Other: \_\_\_\_\_

Is registration mandatory? \*

☒ Yes

☐ No

☐ N/A

☐ Other: \_\_\_\_\_

Is your hunter harvest registration (select all that apply): \*

☒ On line

☒ Over the phone

☐ In person

☐ By mail

☐ N/A

☒ Other: Regarding online registration, can be done on our website or using our MOHunting App.

At the deer management unit level (e.g., county), registered harvest can be reported/summarized by (select all that apply): \*

☒ Number of bucks and does harvested

☒ Number of deer harvested by age class (e.g., fawns, adults)

☒ Tag type used to kill the deer

☒ Number of deer killed by season and/or weapon types

Is harvest linked back to individual hunters? For example, using a hunters' unique identifier, you are able to determine if a specific hunter filled their tag(s). \*

☒ Yes

☐ No

If yes above, what information about harvested deer is linked to individual hunters (select all that apply): \*

☒ Deer sex

☒ Deer age

☒ Tag type used to kill the deer

☒ Season they killed the deer in (may correspond to tag type or weapon used)

☒ Unit(s) they harvested deer in

☐ N/A

Does your agency estimate the error in reported harvest? For example, the percent of hunters that do not register their harvests. \*

☒ Yes

☐ No

If yes to above, please briefly state how (e.g., follow-up survey):

Post-season hunter survey

Are hunters surveyed about their hunting experiences, such as hours spent hunting, days spent hunting, number of deer seen, quality of their hunting experience, and/or unit(s) they hunted in that may or may not have resulted in a harvest? \*

☒ Yes

☐ No

If yes to the question above, is this post-hunt survey mandatory? \*

☐ Yes

☒ No

☐ N/A

☐ Other: \_\_\_\_\_

In what year was hunter-level tag and harvest tracking first available? Please leave this blank if not applicable.

2006

#### DATA RESOLUTION

The following questions address the spatial scales at which tags are issued and filled, and the spatial scales these data are recorded. For example, antlered deer tags might be issued and recorded at the state-level (e.g., 450,000 antlered deer tags sold in Wisconsin), while antlered deer harvest might be recorded at the unit-level (e.g., 3,000 antlered deer were harvested in Dane County).

#### TAG ISSUANCE



What is the smallest spatial scale in which ANTLERED deer TAG ISSUANCE is recorded? \*

- ☐ Deer management unit
- ☐ Hunting "zone" or conglomerate of multiple smaller deer management units or counties
- ☒ State
- ☐ This is not recorded
- ☐ Other: \_\_\_\_\_

What is the smallest spatial scale in which ANTLERLESS deer TAG ISSUANCE is recorded? \*

- ☐ Deer management unit
- ☐ Hunting "zone" or conglomerate of multiple smaller deer management units or counties
- ☒ State
- ☐ This is not recorded
- ☐ Other: \_\_\_\_\_

Have there been significant changes to the tag issuance process since 2000? If so, please summarize the change(s) and the year(s) it took place. For example: "Tags were issued at an aggregated spatial scale (i.e., Zone comprising many counties) from 1990-2004, then tags were issued per county from 2005-present".

Permit quota system was eliminated in 2003, after which permits could be purchased over the counter.

## DEER HARVEST

What is the smallest spatial scale in which ANTLERED deer HARVEST is recorded? \*

- ☒ Deer management unit
- ☐ Hunting "zone" or conglomerate of multiple smaller deer management units or counties
- ☐ State
- ☐ This is not recorded
- ☐ Other: \_\_\_\_\_

What is the smallest spatial scale in which ANTLERLESS deer HARVEST is recorded? \*

- ☒ Deer management unit
- ☐ Hunting "zone" or conglomerate of multiple smaller deer management units or counties
- ☐ State
- ☐ This is not recorded
- ☐ Other: \_\_\_\_\_

Have there been significant changes to the spatial scale of recorded harvest since 2000? If so, please summarize the change(s) and the year(s) it took place. For example: "From 1986-2012, deer harvests were summed by deer management units (county). From 2013-present, we ask hunters to estimate the coordinates of their harvests in our online registration system using an interactive map."

Prior to 2004, we had DMUs that used roads/highways as boundaries. Beginning in 2004, we switched to using DMUs based on county boundaries. Harvest was reported at the DMU scale in both cases.

## CHRONIC WASTING DISEASE

### GENERAL

Has your agency surveyed hunters about their opinions/perceptions of CWD with respect to changes in hunting participation? \*

- ☐ Yes
- ☒ No
- ☐ This research is currently underway

Has your agency quantified empirical changes in hunter behavior of TAG ACQUISITION, such as a decrease or increase in the number of tags hunters obtain following an increase in CWD prevalence (using tag issuance data, NOT using survey data)? \*

- ☐ No
- ☐ Yes - we analyzed/are analyzing per capita tag acquisition
- ☐ Yes - we analyzed/are analyzing tag acquisition at the unit-level
- ☐ Yes - we analyzed/are analyzing tag acquisition at the state-level
- ☒ N/A

Has your agency quantified empirical changes in hunter behavior of DEER HARVEST (i.e., filling tags), such as a decrease or increase in the number of tags hunters obtain following an increase in CWD prevalence (using tag issuance data, NOT using survey data)? \*

- ☐ No
- ☐ Yes - we analyzed/are analyzing per capita harvests
- ☒ Yes - we analyzed/are analyzing harvests at the unit-level
- ☐ Yes - we analyzed/are analyzing harvests at the state-level
- ☐ N/A

#### CWD MANAGEMENT

There may be differences in CWD prevalence and management within each state. Here we define 3 CWD scenarios that broadly classify the scale of the disease:

\*Endemic: CWD has persisted for at least 5 years

\*Invasion: CWD was first detected within 5 years

\*Unaffected: CWD has not been detected yet; could also be considered "unknown"

Below, we ask a series of questions for the scenarios where CWD has been detected.

If your entire state is unaffected, please fill out WHAT YOUR AGENCY PLANS TO DO if CWD is detected in the Invasion areas questions and select "N/A" for the Endemic area questions; make sure to only select "Unaffected" for question 1.

Otherwise, if a particular scenario does not occur in your state, please answer "N/A" to those questions.

Response options are simplified in order to focus on the substantial changes an agency may make with respect to CWD management, and smaller changes such as prohibiting baiting are not included.

Which CWD scenarios occur in your state? In other words, which of the following CWD scenarios can management units in your state be classified as? \*  
(select all that apply):

- ☒ Endemic
- ☒ Invasion
- ☒ Unaffected (Unknown)

#### Endemic Areas

Endemic areas: What is your agency's CURRENT management response to CWD, or the CWD management goal? Please select the option(s) that best \* represents your agency's current response:

- ☐ Eradication
- ☒ Spatial control (i.e., stop/slow the spread from "hotspots")
- ☐ Increase harvests within designated areas, but no specific goal to control CWD
- ☐ No change in management, but implementation of surveillance program
- ☐ No response or management goal
- ☐ N/A
- ☒ Other:  
We increase availability of county-level antlerless permits, offer no-cost either-sex CWD Management Permits w/in ~2 miles of positive detections, and conduct targeted culling w/in ~2 miles of positive detections.

Endemic areas: What was your agency's response following the INITIAL detection of CWD in wild deer in your state? Please select the option(s) that best represents your agency's initial response: \*

- ☒ Eradication
- ☐ Spatial control (i.e., stop/slow the spread from "hotspots")
- ☐ Increase harvests within designated areas, but no specific goal to control CWD
- ☐ No change in management, but implementation of surveillance program
- ☐ No response or management goal
- ☐ N/A
- ☒ Other:  
We offered no-cost either-sex CWD Management Seals w/in ~2 miles of positive detections and conducted targeted culling w/in ~2 miles of positive detections.

Endemic areas: If your agency response includes or included eradication or spatial control (i.e., past or present), what is the main mechanism of deer removal (select all that apply)? \*

- ☒ Voluntary hunting (i.e., the "standard" management framework)
- ☒ Agency regulated culls/removals
- ☒ Incentivizing or requiring hunters to kill more deer (perhaps of a certain demographic class)
- ☐ N/A
- ☐ Other: \_\_\_\_\_

Endemic areas: If your agency response includes or included eradication or spatial control (i.e., past or present), is or was CWD managed at the SAME spatial scale as the "typical" deer management in your state (e.g., county)? \*

- ☐ Yes
- ☒ No - new, smaller CWD units were created
- ☐ No - new, larger CWD units were created
- ☐ N/A

Endemic areas: If your agency response to CWD detection includes or included no change in management (i.e., past or present), please select the primary rationale(s) (select all that apply): \*

- ☐ Voluntary hunting (i.e., the "standard" management framework) will not result in high enough harvest rates to control CWD
- ☐ CWD cannot be controlled via deer removals
- ☐ Changes in management are too expensive to implement
- ☐ Changes in management are unpopular and we were concerned about stakeholder reactions
- ☐ We do not have the capacity (e.g., staff, funds) to respond to CWD
- ☒ N/A
- ☐ Other: \_\_\_\_\_

Endemic areas: Have there been significant changes to deer management with respect to CWD? If so, please summarize the change(s) and the year(s) it took place. For example: "Deer were managed to eradicate CWD from the time it was first detected in the state (2008) until 2011. It was no longer considered feasible due to low levels of hunter harvest and CWD was increasing. From 2012-present we manage deer for CWD control with high quotas in CWD-affected counties."

We established (in 2012) a CWD Management Zone using a 25-mile radius from positive detections. W/in this zone, we rescinded the APR, prohibited feeding, and increased antlerless permit availability. We began using a 10-mile radius to define our CWD Management Zone starting in 2019. In 2012, we issued CWD Management Seals that allowed landowners (5 per landowner) w/in ~2 miles of positive detections to harvest deer of either sex during the hunting season. The seals were not assigned to a specific hunter. Beginning in 2020, we transitioned the management seals to CWD Management Permits and now issue 10 per landowner. These permits are assigned by the landowner to specific hunters of their choosing. Intrastate carcass movement restrictions were first implemented in 2020.

#### Invasion Areas

Invasion areas: What is your agency's CURRENT management response to CWD, or the CWD management goal? Please select the option(s) that best <sup>\*</sup> represents your agency's current response:

- ☒ Eradication
- ☒ Spatial control (i.e., stop/slow the spread from "hotspots")
- ☐ Increase harvests within designated areas, but no specific goal to control CWD
- ☐ No change in management, but implementation of surveillance program
- ☐ No response or management goal
- ☐ N/A

☒ Other:

We increase availability of county-level antlerless permits, offer no-cost either-sex CWD Management Permits w/in ~2 miles of positive detections, and conduct targeted culling w/in ~2 miles of positive detections.

Invasion areas: If your agency response includes eradication or spatial control, what is the main mechanism of deer removal (select all that apply)? <sup>\*</sup>

- ☒ Voluntary hunting (i.e., the "standard" management framework)
- ☒ Agency regulated culls/removals
- ☒ Incentivizing or requiring hunters to kill more deer (perhaps of a certain demographic class)
- ☐ N/A
- ☐ Other: \_\_\_\_\_

Invasion areas: If your agency response includes eradication or spatial control, is CWD managed at the SAME spatial scale as the "typical" deer management in your state (e.g., county)? <sup>\*</sup>

- ☐ Yes
- ☒ No - new, smaller CWD units were created
- ☐ No - new, larger CWD units were created
- ☐ N/A

Invasion areas: If your agency response to CWD detection includes no change in management, please select the primary rationale(s) (select all that apply): \*

- ☐ Voluntary hunting (i.e., the "standard" management framework) will not result in high enough harvest rates to control CWD
- ☐ CWD cannot be controlled via deer removals
- ☐ Changes in management are too expensive to implement
- ☐ Changes in management are unpopular and we were concerned about stakeholder reactions
- ☐ We do not have the capacity (e.g., staff, funds) to respond to CWD
- ☒ N/A
- ☐ Other: \_\_\_\_\_

Invasion areas: If there is any additional information about changes in CWD management in invasion areas, or how invasion areas differ from unaffected areas, please summarize the change(s) and the year(s) it took place.

\_\_\_\_\_

#### OTHER

Do you believe your agency would be willing to participate in a regional (Midwest/Great Plains) adaptive white-tailed deer management effort, such as a workshop?

- ☒ Yes
- ☐ No
- ☐ Unsure

Please provide any other information you feel is relevant, if any, about how your agency has recorded/implemented hunting tags, reported harvests, conducted management, etc. since the year 2000.

In 2011, we began allowing hunters to print permits at home. In 2014, created MOHunting App to allow permits to be carried electronically. Prior to 2006, we had in-person mandatory harvest registration. Beginning in 2006, we switched to a Telecheck electronic reporting system.

Thank you very much for taking the time to complete this survey!

You may exit your browser after clicking "Submit" below.

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## Midwestern survey about white-tailed deer management and harvest data collection

This is a survey about white-tailed deer management, harvest, and chronic wasting disease data collection. See email from Dan Storm (Wisconsin Department of Natural Resources) for additional information.  
Thank you for your participation!

### State Agency \*

- ☐ Illinois Department of Natural Resources
- ☐ Indiana Department of Natural Resources
- ☒ Iowa Department of Natural Resources
- ☐ Kentucky Department of Fish & Wildlife
- ☐ Michigan Department of Natural Resources
- ☐ Minnesota Department of Natural Resources
- ☐ Missouri Department of Natural Resources
- ☐ Ohio Department of Natural Resources
- ☐ Wisconsin Department of Natural Resources

Name(s), title(s), and email address(es) of biologist(s) completing this survey. \*This will NOT be shared, it is only for follow-up correspondence if necessary. \*

[REDACTED]

### MANAGEMENT SUMMARY

Which generalized description does most ANTLERLESS tag dissemination/allocation fall into in your state: \*

- ☒ "Quota system": hunters can purchase as many tags as they'd like until a quota limit is reached (per spatial unit, such as the state or per county)

"Bag system": hunters have a bag limit for a specific spatial unit - more specifically, hunters purchase an approval (often referred to as a 'license'), which allows them to harvest up to a certain number of deer (per spatial unit, such as the state or per county)

"Lottery system": hunters purchase entries to a lottery where only a set number of individuals can receive tags (per spatial unit, such as the state or per county)

Other: \_\_\_\_\_

Which generalized description does most ANTLERED tag dissemination/allocation fall into in your state? \*

- ☐ "Quota system": hunters can purchase as many tags as they'd like until a quota limit is reached (per spatial unit, such as the state or per county)
- ☒ "Bag system": hunters have a bag limit for a specific spatial unit - more specifically, hunters purchase an approval (often referred to as a 'license'), which allows them to harvest up to a certain number of deer (per spatial unit, such as the state or per county)
- ☐ "Lottery system": hunters purchase entries to a lottery where only a set number of individuals can receive tags (per spatial unit, such as the state or per county)
- ☐ Other: \_\_\_\_\_

Are most deer harvested on private or public land in your state? \*

- ☒ Private
- ☐ Public
- ☐ Unsure

#### HUNTER INFORMATION & HARVEST REGISTRATION

How can hunters obtain tags? (select all that apply) \*

- ☒ Online
- ☒ Over the phone
- ☒ In person
- ☐ By mail
- ☐ Other: \_\_\_\_\_

Are hunters given a unique identifier in the database that can be tracked longitudinally (i.e., a customer number)? \*

- ☒ Yes
- ☐ No

Is there hunter registration of harvests in your state? \*

- ☒ Yes
- ☐ No
- ☐ Other: \_\_\_\_\_

Is registration mandatory? \*

☒ Yes

☐ No

☐ N/A

☐ Other: \_\_\_\_\_

Is your hunter harvest registration (select all that apply): \*

☒ On ine

☒ Over the phone

☐ In person

☐ By mail

☐ N/A

☐ Other: \_\_\_\_\_

At the deer management unit level (e.g., county), registered harvest can be reported/summarized by (select all that apply): \*

☒ Number of bucks and does harvested

☒ Number of deer harvested by age class (e.g., fawns, adults)

☒ Tag type used to kill the deer

☒ Number of deer killed by season and/or weapon types

Is harvest linked back to individual hunters? For example, using a hunters' unique identifier, you are able to determine if a specific hunter filled their tag(s). \*

☒ Yes

☐ No

If yes above, what information about harvested deer is linked to individual hunters (select all that apply): \*

☒ Deer sex

☒ Deer age

☒ Tag type used to kill the deer

☒ Season they killed the deer in (may correspond to tag type or weapon used)

☒ Unit(s) they harvested deer in

☐ N/A

Does your agency estimate the error in reported harvest? For example, the percent of hunters that do not register their harvests. \*

☐ Yes

☒ No

If yes to above, please briefly state how (e.g., follow-up survey):

---

Are hunters surveyed about their hunting experiences, such as hours spent hunting, days spent hunting, number of deer seen, quality of their hunting experience, and/or unit(s) they hunted in that may or may not have resulted in a harvest? \*

☐ Yes

☒ No

If yes to the question above, is this post-hunt survey mandatory? \*

☐ Yes

☐ No

☒ N/A

☐ Other: 

---

In what year was hunter-level tag and harvest tracking first available? Please leave this blank if not applicable.

2006 

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#### DATA RESOLUTION

The following questions address the spatial scales at which tags are issued and filled, and the spatial scales these data are recorded. For example, antlered deer tags might be issued and recorded at the state-level (e.g., 450,000 antlered deer tags sold in Wisconsin), while antlered deer harvest might be recorded at the unit-level (e.g., 3,000 antlered deer were harvested in Dane County).

#### TAG ISSUANCE

What is the smallest spatial scale in which ANTLERED deer TAG ISSUANCE is recorded? \*

- ☐ Deer management unit
- ☐ Hunting "zone" or conglomerate of multiple smaller deer management units or counties
- ☒ State
- ☐ This is not recorded
- ☐ Other: \_\_\_\_\_

What is the smallest spatial scale in which ANTLERLESS deer TAG ISSUANCE is recorded? \*

- ☐ Deer management unit
- ☐ Hunting "zone" or conglomerate of multiple smaller deer management units or counties
- ☐ State
- ☐ This is not recorded
- ☒ Other: County

Have there been significant changes to the tag issuance process since 2000? If so, please summarize the change(s) and the year(s) it took place. For example: "Tags were issued at an aggregated spatial scale (i.e., Zone comprising many counties) from 1990-2004, then tags were issued per county from 2005-present".

No

#### DEER HARVEST

What is the smallest spatial scale in which ANTLERED deer HARVEST is recorded? \*

- ☐ Deer management unit
- ☐ Hunting "zone" or conglomerate of multiple smaller deer management units or counties
- ☐ State
- ☐ This is not recorded
- ☒ Other: County

What is the smallest spatial scale in which ANTLERLESS deer HARVEST is recorded? \*

- ☐ Deer management unit
- ☐ Hunting "zone" or conglomerate of multiple smaller deer management units or counties
- ☐ State
- ☐ This is not recorded
- ☒ Other: County

Have there been significant changes to the spatial scale of recorded harvest since 2000? If so, please summarize the change(s) and the year(s) it took place. For example: "From 1986-2012, deer harvests were summed by deer management units (county). From 2013-present, we ask hunters to estimate the coordinates of their harvests in our online registration system using an interactive map."

No

## CHRONIC WASTING DISEASE

### GENERAL

Has your agency surveyed hunters about their opinions/perceptions of CWD with respect to changes in hunting participation? \*

- ☒ Yes
- ☐ No
- ☐ This research is currently underway

Has your agency quantified empirical changes in hunter behavior of TAG ACQUISITION, such as a decrease or increase in the number of tags hunters obtain following an increase in CWD prevalence (using tag issuance data, NOT using survey data)? \*

- ☐ No
- ☐ Yes - we analyzed/are analyzing per capita tag acquisition
- ☒ Yes - we analyzed/are analyzing tag acquisition at the unit-level
- ☐ Yes - we analyzed/are analyzing tag acquisition at the state-level
- ☐ N/A



Has your agency quantified empirical changes in hunter behavior of DEER HARVEST (i.e., filling tags), such as a decrease or increase in the number of tags hunters obtain following an increase in CWD prevalence (using tag issuance data, NOT using survey data)? \*

- ☒ No
- ☐ Yes - we analyzed/are analyzing per capita harvests
- ☐ Yes - we analyzed/are analyzing harvests at the unit-level
- ☐ Yes - we analyzed/are analyzing harvests at the state-level
- ☐ N/A

#### CWD MANAGEMENT

There may be differences in CWD prevalence and management within each state. Here we define 3 CWD scenarios that broadly classify the scale of the disease:

\*Endemic: CWD has persisted for at least 5 years

\*Invasion: CWD was first detected within 5 years

\*Unaffected: CWD has not been detected yet; could also be considered "unknown"

Below, we ask a series of questions for the scenarios where CWD has been detected.

If your entire state is unaffected, please fill out WHAT YOUR AGENCY PLANS TO DO if CWD is detected in the Invasion areas questions and select "N/A" for the Endemic area questions; make sure to only select "Unaffected" for question 1.

Otherwise, if a particular scenario does not occur in your state, please answer "N/A" to those questions.

Response options are simplified in order to focus on the substantial changes an agency may make with respect to CWD management, and smaller changes such as prohibiting baiting are not included.

Which CWD scenarios occur in your state? In other words, which of the following CWD scenarios can management units in your state be classified as? \*  
(select all that apply):

- ☒ Endemic
- ☒ Invasion
- ☒ Unaffected (Unknown)

#### Endemic Areas

Endemic areas: What is your agency's CURRENT management response to CWD, or the CWD management goal? Please select the option(s) that best \* represents your agency's current response:

- ☐ Eradication
- ☒ Spatial control (i.e., stop/slow the spread from "hotspots")
- ☐ Increase harvests within designated areas, but no specific goal to control CWD
- ☐ No change in management, but implementation of surveillance program
- ☐ No response or management goal
- ☐ N/A
- ☐ Other: \_\_\_\_\_

Endemic areas: What was your agency's response following the INITIAL detection of CWD in wild deer in your state? Please select the option(s) that best represents your agency's initial response: \*

- ☐ Eradication
- ☐ Spatial control (i.e., stop/slow the spread from "hotspots")
- ☒ Increase harvests within designated areas, but no specific goal to control CWD
- ☐ No change in management, but implementation of surveillance program
- ☐ No response or management goal
- ☐ N/A
- ☐ Other: \_\_\_\_\_

Endemic areas: If your agency response includes or included eradication or spatial control (i.e., past or present), what is the main mechanism of deer removal (select all that apply)? \*

- ☒ Voluntary hunting (i.e., the "standard" management framework)
- ☐ Agency regulated culls/removals
- ☒ Incentivizing or requiring hunters to kill more deer (perhaps of a certain demographic class)
- ☐ N/A
- ☐ Other: \_\_\_\_\_

Endemic areas: If your agency response includes or included eradication or spatial control (i.e., past or present), is or was CWD managed at the SAME spatial scale as the "typical" deer management in your state (e.g., county)? \*

- ☐ Yes
- ☒ No - new, smaller CWD units were created
- ☐ No - new, larger CWD units were created
- ☐ N/A

Endemic areas: If your agency response to CWD detection includes or included no change in management (i.e., past or present), please select the primary rationale(s) (select all that apply): \*

- ☐ Voluntary hunting (i.e., the "standard" management framework) will not result in high enough harvest rates to control CWD
- ☐ CWD cannot be controlled via deer removals
- ☐ Changes in management are too expensive to implement
- ☐ Changes in management are unpopular and we were concerned about stakeholder reactions
- ☐ We do not have the capacity (e.g., staff, funds) to respond to CWD
- ☒ N/A
- ☐ Other: \_\_\_\_\_

Endemic areas: Have there been significant changes to deer management with respect to CWD? If so, please summarize the change(s) and the year(s) it took place. For example: "Deer were managed to eradicate CWD from the time it was first detected in the state (2008) until 2011. It was no longer considered feasible due to low levels of hunter harvest and CWD was increasing. From 2012-present we manage deer for CWD control with high quotas in CWD-affected counties."

No

### Invasion Areas

Invasion areas: What is your agency's CURRENT management response to CWD, or the CWD management goal? Please select the option(s) that best <sup>\*</sup> represents your agency's current response:

- ☐ Eradication
- ☒ Spatial control (i.e., stop/slow the spread from "hotspots")
- ☐ Increase harvests within designated areas, but no specific goal to control CWD
- ☐ No change in management, but implementation of surveillance program
- ☐ No response or management goal
- ☐ N/A
- ☐ Other: \_\_\_\_\_

Invasion areas: If your agency response includes eradication or spatial control, what is the main mechanism of deer removal (select all that apply)? <sup>\*</sup>

- ☒ Voluntary hunting (i.e., the "standard" management framework)
- ☐ Agency regulated culls/removals
- ☐ Incentivizing or requiring hunters to kill more deer (perhaps of a certain demographic class)
- ☐ N/A
- ☐ Other: \_\_\_\_\_

Invasion areas: If your agency response includes eradication or spatial control, is CWD managed at the SAME spatial scale as the "typical" deer management in your state (e.g., county)? <sup>\*</sup>

- ☐ Yes
- ☒ No - new, smaller CWD units were created
- ☐ No - new, larger CWD units were created
- ☐ N/A

Invasion areas: If your agency response to CWD detection includes no change in management, please select the primary rationale(s) (select all that apply): \*

- ☐ Voluntary hunting (i.e., the "standard" management framework) will not result in high enough harvest rates to control CWD
- ☐ CWD cannot be controlled via deer removals
- ☐ Changes in management are too expensive to implement
- ☐ Changes in management are unpopular and we were concerned about stakeholder reactions
- ☐ We do not have the capacity (e.g., staff, funds) to respond to CWD
- ☒ N/A
- ☐ Other: \_\_\_\_\_

Invasion areas: If there is any additional information about changes in CWD management in invasion areas, or how invasion areas differ from unaffected areas, please summarize the change(s) and the year(s) it took place.

No

OTHER

Do you believe your agency would be willing to participate in a regional (Midwest/Great Plains) adaptive white-tailed deer management effort, such as a workshop?

- ☒ Yes
- ☐ No
- ☐ Unsure

Please provide any other information you feel is relevant, if any, about how your agency has recorded/implemented hunting tags, reported harvests, conducted management, etc. since the year 2000.

Thank you very much for taking the time to complete this survey!

You may exit your browser after clicking "Submit" below.

This content is neither created nor endorsed by Google.

Google Forms

# Midwestern survey about white-tailed deer management and harvest data collection

This is a survey about white-tailed deer management, harvest, and chronic wasting disease data collection. See email from Dan Storm (Wisconsin Department of Natural Resources) for additional information.  
Thank you for your participation!

## State Agency \*

- ☒ Illinois Department of Natural Resources
- ☐ Indiana Department of Natural Resources
- ☐ Iowa Department of Natural Resources
- ☐ Kentucky Department of Fish & Wildlife
- ☐ Michigan Department of Natural Resources
- ☐ Minnesota Department of Natural Resources
- ☐ Missouri Department of Natural Resources
- ☐ Ohio Department of Natural Resources
- ☐ Wisconsin Department of Natural Resources

Name(s), title(s), and email address(es) of biologist(s) completing this survey. \*This will NOT be shared, it is only for follow-up correspondence if necessary. \*

[REDACTED]

## MANAGEMENT SUMMARY

Which generalized description does most ANTLERLESS tag dissemination/allocation fall into in your state: \*

"Quota system": hunters can purchase as many tags as they'd like until a quota limit is reached (per spatial unit, such as the state or per county)

"Bag system": hunters have a bag limit for a specific spatial unit - more specifically, hunters purchase an approval (often referred to as a 'license'), which allows them to harvest up to a certain number of deer (per spatial unit, such as the state or per county)

"Lottery system": hunters purchase entries to a lottery where only a set number of individuals can receive tags (per spatial unit, such as the state or per county)

### ☒ Other:

Illinois uses a combination of these three systems. There is a state-wide "bag limit" on antlered bucks (2). There is no limit on does. Resident archery permits are unlimited but firearm permits use a quota system with permits allocated by county. We use a lottery to select hunters for firearm permits with excess going over-the-counter on a first-come first-serve basis. Hunting at state sites can be by lottery, or using a county specific permit.

Which generalized description does most ANTLERED tag dissemination/allocation fall into in your state? \*

- ☐ "Quota system": hunters can purchase as many tags as they'd like until a quota limit is reached (per spatial unit, such as the state or per county)
- ☐ "Bag system": hunters have a bag limit for a specific spatial unit - more specifically, hunters purchase an approval (often referred to as a 'license'), which allows them to harvest up to a certain number of deer (per spatial unit, such as the state or per county)
- ☐ "Lottery system": hunters purchase entries to a lottery where only a set number of individuals can receive tags (per spatial unit, such as the state or per county)
- ☒ Other: We do not have "antlered" permits. We have either either-sex or antlerless. Most either sex permits are allocated in the lottery.

Are most deer harvested on private or public land in your state? \*

- ☒ Private
- ☐ Public
- ☐ Unsure

#### HUNTER INFORMATION & HARVEST REGISTRATION

How can hunters obtain tags? (select all that apply) \*

- ☒ Online
- ☐ Over the phone
- ☒ In person
- ☒ By mail
- ☐ Other: \_\_\_\_\_

Are hunters given a unique identifier in the database that can be tracked longitudinally (i.e., a customer number)? \*

- ☒ Yes
- ☐ No

Is there hunter registration of harvests in your state? \*

- ☒ Yes
- ☐ No
- ☐ Other: \_\_\_\_\_

Is registration mandatory? \*

☒ Yes

☐ No

☐ N/A

☐ Other: \_\_\_\_\_

Is your hunter harvest registration (select all that apply): \*

☒ On line

☒ Over the phone

☒ In person

☐ By mail

☐ N/A

☐ Other: \_\_\_\_\_

At the deer management unit level (e.g., county), registered harvest can be reported/summarized by (select all that apply): \*

☒ Number of bucks and does harvested

☒ Number of deer harvested by age class (e.g., fawns, adults)

☒ Tag type used to kill the deer

☒ Number of deer killed by season and/or weapon types

Is harvest linked back to individual hunters? For example, using a hunters' unique identifier, you are able to determine if a specific hunter filled their tag(s). \*

☒ Yes

☐ No

If yes above, what information about harvested deer is linked to individual hunters (select all that apply): \*

☒ Deer sex

☒ Deer age

☒ Tag type used to kill the deer

☒ Season they killed the deer in (may correspond to tag type or weapon used)

☒ Unit(s) they harvested deer in

☐ N/A



Does your agency estimate the error in reported harvest? For example, the percent of hunters that do not register their harvests. \*

☐ Yes

☒ No

If yes to above, please briefly state how (e.g., follow-up survey):

---

Are hunters surveyed about their hunting experiences, such as hours spent hunting, days spent hunting, number of deer seen, quality of their hunting experience, and/or unit(s) they hunted in that may or may not have resulted in a harvest? \*

☒ Yes

☐ No

If yes to the question above, is this post-hunt survey mandatory? \*

☐ Yes

☒ No

☐ N/A

☐ Other: 

---

In what year was hunter-level tag and harvest tracking first available? Please leave this blank if not applicable.

1957 (I think, would require digging to verify) 

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#### DATA RESOLUTION

The following questions address the spatial scales at which tags are issued and filled, and the spatial scales these data are recorded. For example, antlered deer tags might be issued and recorded at the state-level (e.g., 450,000 antlered deer tags sold in Wisconsin), while antlered deer harvest might be recorded at the unit-level (e.g., 3,000 antlered deer were harvested in Dane County).

#### TAG ISSUANCE

What is the smallest spatial scale in which ANTLERED deer TAG ISSUANCE is recorded? \*

- ☒ Deer management unit
- ☐ Hunting "zone" or conglomerate of multiple smaller deer management units or counties
- ☐ State
- ☐ This is not recorded
- ☐ Other: \_\_\_\_\_

What is the smallest spatial scale in which ANTLERLESS deer TAG ISSUANCE is recorded? \*

- ☒ Deer management unit
- ☐ Hunting "zone" or conglomerate of multiple smaller deer management units or counties
- ☐ State
- ☐ This is not recorded
- ☐ Other: \_\_\_\_\_

Have there been significant changes to the tag issuance process since 2000? If so, please summarize the change(s) and the year(s) it took place. For example: "Tags were issued at an aggregated spatial scale (i.e., Zone comprising many counties) from 1990-2004, then tags were issued per county from 2005-present".

No \_\_\_\_\_

## DEER HARVEST

What is the smallest spatial scale in which ANTLERED deer HARVEST is recorded? \*

- ☒ Deer management unit
- ☐ Hunting "zone" or conglomerate of multiple smaller deer management units or counties
- ☐ State
- ☐ This is not recorded
- ☐ Other: \_\_\_\_\_

What is the smallest spatial scale in which ANTLERLESS deer HARVEST is recorded? \*

- ☒ Deer management unit
- ☐ Hunting "zone" or conglomerate of multiple smaller deer management units or counties
- ☐ State
- ☐ This is not recorded
- ☐ Other: \_\_\_\_\_

Have there been significant changes to the spatial scale of recorded harvest since 2000? If so, please summarize the change(s) and the year(s) it took place. For example: "From 1986-2012, deer harvests were summed by deer management units (county). From 2013-present, we ask hunters to estimate the coordinates of their harvests in our online registration system using an interactive map."

No \_\_\_\_\_

#### CHRONIC WASTING DISEASE

##### GENERAL

Has your agency surveyed hunters about their opinions/perceptions of CWD with respect to changes in hunting participation? \*

- ☒ Yes
- ☐ No
- ☐ This research is currently underway

Has your agency quantified empirical changes in hunter behavior of TAG ACQUISITION, such as a decrease or increase in the number of tags hunters obtain following an increase in CWD prevalence (using tag issuance data, NOT using survey data)? \*

- ☒ No
- ☐ Yes - we analyzed/are analyzing per capita tag acquisition
- ☐ Yes - we analyzed/are analyzing tag acquisition at the unit-level
- ☐ Yes - we analyzed/are analyzing tag acquisition at the state-level
- ☐ N/A

Has your agency quantified empirical changes in hunter behavior of DEER HARVEST (i.e., filling tags), such as a decrease or increase in the number of tags hunters obtain following an increase in CWD prevalence (using tag issuance data, NOT using survey data)? \*

- ☒ No
- ☐ Yes - we analyzed/are analyzing per capita harvests
- ☐ Yes - we analyzed/are analyzing harvests at the unit-level
- ☐ Yes - we analyzed/are analyzing harvests at the state-level
- ☐ N/A

#### CWD MANAGEMENT

There may be differences in CWD prevalence and management within each state. Here we define 3 CWD scenarios that broadly classify the scale of the disease:

\*Endemic: CWD has persisted for at least 5 years

\*Invasion: CWD was first detected within 5 years

\*Unaffected: CWD has not been detected yet; could also be considered "unknown"

Below, we ask a series of questions for the scenarios where CWD has been detected.

If your entire state is unaffected, please fill out WHAT YOUR AGENCY PLANS TO DO if CWD is detected in the Invasion areas questions and select "N/A" for the Endemic area questions; make sure to only select "Unaffected" for question 1.

Otherwise, if a particular scenario does not occur in your state, please answer "N/A" to those questions.

Response options are simplified in order to focus on the substantial changes an agency may make with respect to CWD management, and smaller changes such as prohibiting baiting are not included.

Which CWD scenarios occur in your state? In other words, which of the following CWD scenarios can management units in your state be classified as? \* (select all that apply):

- ☒ Endemic
- ☐ Invasion
- ☐ Unaffected (Unknown)

#### Endemic Areas

Endemic areas: What is your agency's CURRENT management response to CWD, or the CWD management goal? Please select the option(s) that best \* represents your agency's current response:

- ☐ Eradication
- ☒ Spatial control (i.e., stop/slow the spread from "hotspots")
- ☒ Increase harvests within designated areas, but no specific goal to control CWD
- ☐ No change in management, but implementation of surveillance program
- ☐ No response or management goal
- ☐ N/A
- ☐ Other: \_\_\_\_\_

Endemic areas: What was your agency's response following the INITIAL detection of CWD in wild deer in your state? Please select the option(s) that best represents your agency's initial response: \*

- ☐ Eradication
- ☒ Spatial control (i.e., stop/slow the spread from "hotspots")
- ☒ Increase harvests within designated areas, but no specific goal to control CWD
- ☐ No change in management, but implementation of surveillance program
- ☐ No response or management goal
- ☐ N/A
- ☐ Other: \_\_\_\_\_

Endemic areas: If your agency response includes or included eradication or spatial control (i.e., past or present), what is the main mechanism of deer removal (select all that apply)? \*

- ☒ Voluntary hunting (i.e., the "standard" management framework)
- ☒ Agency regulated culls/removals
- ☐ Incentivizing or requiring hunters to kill more deer (perhaps of a certain demographic class)
- ☐ N/A
- ☐ Other: \_\_\_\_\_

Endemic areas: If your agency response includes or included eradication or spatial control (i.e., past or present), is or was CWD managed at the SAME spatial scale as the "typical" deer management in your state (e.g., county)? \*

- ☐ Yes
- ☒ No - new, smaller CWD units were created
- ☐ No - new, larger CWD units were created
- ☐ N/A

Endemic areas: If your agency response to CWD detection includes or included no change in management (i.e., past or present), please select the primary rationale(s) (select all that apply): \*

- ☐ Voluntary hunting (i.e., the "standard" management framework) will not result in high enough harvest rates to control CWD
- ☐ CWD cannot be controlled via deer removals
- ☐ Changes in management are too expensive to implement
- ☐ Changes in management are unpopular and we were concerned about stakeholder reactions
- ☐ We do not have the capacity (e.g., staff, funds) to respond to CWD
- ☒ N/A
- ☐ Other: \_\_\_\_\_

Endemic areas: Have there been significant changes to deer management with respect to CWD? If so, please summarize the change(s) and the year(s) it took place. For example: "Deer were managed to eradicate CWD from the time it was first detected in the state (2008) until 2011. It was no longer considered feasible due to low levels of hunter harvest and CWD was increasing. From 2012-present we manage deer for CWD control with high quotas in CWD-affected counties."

IDNR has increased the number of firearm permits in every county where CWD has been detected. Even though deer densities are significantly lower than when CWD was first detected, we have not reduced quotas. We have also reinstituted mandatory in-person deer check stations to increase our sampling effort and try to detect CWD in new "hot-spots". We then target these smaller areas for agency led sharpshooting/culling.

#### Invasion Areas

Invasion areas: What is your agency's CURRENT management response to CWD, or the CWD management goal? Please select the option(s) that best <sup>\*</sup> represents your agency's current response:

- ☐ Eradication
- ☐ Spatial control (i.e., stop/slow the spread from "hotspots")
- ☐ Increase harvests within designated areas, but no specific goal to control CWD
- ☐ No change in management, but implementation of surveillance program
- ☐ No response or management goal
- ☒ N/A
- ☐ Other: \_\_\_\_\_

Invasion areas: If your agency response includes eradication or spatial control, what is the main mechanism of deer removal (select all that apply)? <sup>\*</sup>

- ☐ Voluntary hunting (i.e., the "standard" management framework)
- ☐ Agency regulated culls/removals
- ☐ Incentivizing or requiring hunters to kill more deer (perhaps of a certain demographic class)
- ☒ N/A
- ☐ Other: \_\_\_\_\_

Invasion areas: If your agency response includes eradication or spatial control, is CWD managed at the SAME spatial scale as the "typical" deer management in your state (e.g., county)? <sup>\*</sup>

- ☐ Yes
- ☐ No - new, smaller CWD units were created
- ☐ No - new, larger CWD units were created
- ☒ N/A

Invasion areas: If your agency response to CWD detection includes no change in management, please select the primary rationale(s) (select all that apply): \*

- ☐ Voluntary hunting (i.e., the "standard" management framework) will not result in high enough harvest rates to control CWD
- ☐ CWD cannot be controlled via deer removals
- ☐ Changes in management are too expensive to implement
- ☐ Changes in management are unpopular and we were concerned about stakeholder reactions
- ☐ We do not have the capacity (e.g., staff, funds) to respond to CWD
- ☒ N/A
- ☐ Other: \_\_\_\_\_

Invasion areas: If there is any additional information about changes in CWD management in invasion areas, or how invasion areas differ from unaffected areas, please summarize the change(s) and the year(s) it took place.

\_\_\_\_\_

#### OTHER

Do you believe your agency would be willing to participate in a regional (Midwest/Great Plains) adaptive white-tailed deer management effort, such as a workshop?

- ☒ Yes
- ☐ No
- ☐ Unsure

Please provide any other information you feel is relevant, if any, about how your agency has recorded/implemented hunting tags, reported harvests, conducted management, etc. since the year 2000.

\_\_\_\_\_

Thank you very much for taking the time to complete this survey!

You may exit your browser after clicking "Submit" below.

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# Midwestern survey about white-tailed deer management and harvest data collection

This is a survey about white-tailed deer management, harvest, and chronic wasting disease data collection. See email from Dan Storm (Wisconsin Department of Natural Resources) for additional information.  
Thank you for your participation!

## State Agency \*

- ☐ Illinois Department of Natural Resources
- ☒ Indiana Department of Natural Resources
- ☐ Iowa Department of Natural Resources
- ☐ Kentucky Department of Fish & Wildlife
- ☐ Michigan Department of Natural Resources
- ☐ Minnesota Department of Natural Resources
- ☐ Missouri Department of Natural Resources
- ☐ Ohio Department of Natural Resources
- ☐ Wisconsin Department of Natural Resources

Name(s), title(s), and email address(es) of biologist(s) completing this survey. \*This will NOT be shared, it is only for follow-up correspondence if necessary. \*

██████████

## MANAGEMENT SUMMARY

Which generalized description does most ANTLERLESS tag dissemination/allocation fall into in your state: \*

"Quota system": hunters can purchase as many tags as they'd like until a quota limit is reached (per spatial unit, such as the state or per county)

"Bag system": hunters have a bag limit for a specific spatial unit - more specifically, hunters purchase an approval (often referred to as a 'license'), which allows them to harvest up to a certain number of deer (per spatial unit, such as the state or per county)

"Lottery system": hunters purchase entries to a lottery where only a set number of individuals can receive tags (per spatial unit, such as the state or per county)

☒ Other:

Ours is almost a combination of the bag and quota system. There is a bag limit on certain license (i.e., archery, firearm, muzzleloader), but a quota on others based on the number of antlerless that can be harvested in a particular county. Each hunter can harvest the quota for extra antlerless deer in that county and then move on to the next county.

Which generalized description does most ANTLERED tag dissemination/allocation fall into in your state? \*

- ☐ "Quota system": hunters can purchase as many tags as they'd like until a quota limit is reached (per spatial unit, such as the state or per county)
- ☒ "Bag system": hunters have a bag limit for a specific spatial unit - more specifically, hunters purchase an approval (often referred to as a 'license'), which allows them to harvest up to a certain number of deer (per spatial unit, such as the state or per county)
- ☐ "Lottery system": hunters purchase entries to a lottery where only a set number of individuals can receive tags (per spatial unit, such as the state or per county)
- ☐ Other: \_\_\_\_\_

Are most deer harvested on private or public land in your state? \*

- ☒ Private
- ☐ Public
- ☐ Unsure

#### HUNTER INFORMATION & HARVEST REGISTRATION

How can hunters obtain tags? (select all that apply) \*

- ☒ Online
- ☒ Over the phone
- ☒ In person
- ☐ By mail
- ☒ Other: Some hunters are exempt from needing any license (i.e., landowners of farmland)

Are hunters given a unique identifier in the database that can be tracked longitudinally (i.e., a customer number)? \*

- ☒ Yes
- ☐ No

Is there hunter registration of harvests in your state? \*

- ☒ Yes
- ☐ No
- ☐ Other: \_\_\_\_\_

Is registration mandatory? \*

☒ Yes

☐ No

☐ N/A

☐ Other: \_\_\_\_\_

Is your hunter harvest registration (select all that apply): \*

☒ On line

☒ Over the phone

☒ In person

☒ By mail

☐ N/A

☐ Other: \_\_\_\_\_

At the deer management unit level (e.g., county), registered harvest can be reported/summarized by (select all that apply): \*

☒ Number of bucks and does harvested

☒ Number of deer harvested by age class (e.g., fawns, adults)

☒ Tag type used to kill the deer

☒ Number of deer killed by season and/or weapon types

Is harvest linked back to individual hunters? For example, using a hunters' unique identifier, you are able to determine if a specific hunter filled their tag(s). \*

☒ Yes

☐ No

If yes above, what information about harvested deer is linked to individual hunters (select all that apply): \*

☒ Deer sex

☒ Deer age

☐ Tag type used to kill the deer

☐ Season they killed the deer in (may correspond to tag type or weapon used)

☒ Unit(s) they harvested deer in

☐ N/A

Does your agency estimate the error in reported harvest? For example, the percent of hunters that do not register their harvests. \*

☐ Yes

☒ No

If yes to above, please briefly state how (e.g., follow-up survey):

---

Are hunters surveyed about their hunting experiences, such as hours spent hunting, days spent hunting, number of deer seen, quality of their hunting experience, and/or unit(s) they hunted in that may or may not have resulted in a harvest? \*

☒ Yes

☐ No

If yes to the question above, is this post-hunt survey mandatory? \*

☐ Yes

☒ No

☐ N/A

☐ Other: 

---

In what year was hunter-level tag and harvest tracking first available? Please leave this blank if not applicable.

Not certain. At least last 8 years.

#### DATA RESOLUTION

The following questions address the spatial scales at which tags are issued and filled, and the spatial scales these data are recorded. For example, antlered deer tags might be issued and recorded at the state-level (e.g., 450,000 antlered deer tags sold in Wisconsin), while antlered deer harvest might be recorded at the unit-level (e.g., 3,000 antlered deer were harvested in Dane County).

#### TAG ISSUANCE

What is the smallest spatial scale in which ANTLERED deer TAG ISSUANCE is recorded? \*

- ☐ Deer management unit
- ☐ Hunting "zone" or conglomerate of multiple smaller deer management units or counties
- ☒ State
- ☐ This is not recorded
- ☐ Other: \_\_\_\_\_

What is the smallest spatial scale in which ANTLERLESS deer TAG ISSUANCE is recorded? \*

- ☐ Deer management unit
- ☐ Hunting "zone" or conglomerate of multiple smaller deer management units or counties
- ☒ State
- ☐ This is not recorded
- ☐ Other: \_\_\_\_\_

Have there been significant changes to the tag issuance process since 2000? If so, please summarize the change(s) and the year(s) it took place. For example: "Tags were issued at an aggregated spatial scale (i.e., Zone comprising many counties) from 1990-2004, then tags were issued per county from 2005-present".

Yes. Each year the quota for counties changes. We have added special reduction zones. We have had zones where we had bovine TB and use licenses as incentives. We have added additional season and equipment types. This would need to be put together in a summary to determine which changes are important.

## DEER HARVEST

What is the smallest spatial scale in which ANTLERED deer HARVEST is recorded? \*

- ☐ Deer management unit
- ☐ Hunting "zone" or conglomerate of multiple smaller deer management units or counties
- ☐ State
- ☐ This is not recorded
- ☐ Other: \_\_\_\_\_

What is the smallest spatial scale in which ANTLERLESS deer HARVEST is recorded? \*

- ☐ Deer management unit
- ☐ Hunting "zone" or conglomerate of multiple smaller deer management units or counties
- ☐ State
- ☐ This is not recorded
- ☐ Other: \_\_\_\_\_

Have there been significant changes to the spatial scale of recorded harvest since 2000? If so, please summarize the change(s) and the year(s) it took place. For example: "From 1986-2012, deer harvests were summed by deer management units (county). From 2013-present, we ask hunters to estimate the coordinates of their harvests in our online registration system using an interactive map."

no

#### CHRONIC WASTING DISEASE

##### GENERAL

Has your agency surveyed hunters about their opinions/perceptions of CWD with respect to changes in hunting participation? \*

- ☒ Yes
- ☐ No
- ☐ This research is currently underway

Has your agency quantified empirical changes in hunter behavior of TAG ACQUISITION, such as a decrease or increase in the number of tags hunters obtain following an increase in CWD prevalence (using tag issuance data, NOT using survey data)? \*

- ☒ No
- ☐ Yes - we analyzed/are analyzing per capita tag acquisition
- ☐ Yes - we analyzed/are analyzing tag acquisition at the unit-level
- ☐ Yes - we analyzed/are analyzing tag acquisition at the state-level
- ☐ N/A

Has your agency quantified empirical changes in hunter behavior of DEER HARVEST (i.e., filling tags), such as a decrease or increase in the number of tags hunters obtain following an increase in CWD prevalence (using tag issuance data, NOT using survey data)? \*

- ☒ No
- ☐ Yes - we analyzed/are analyzing per capita harvests
- ☐ Yes - we analyzed/are analyzing harvests at the unit-level
- ☐ Yes - we analyzed/are analyzing harvests at the state-level
- ☐ N/A

#### CWD MANAGEMENT

There may be differences in CWD prevalence and management within each state. Here we define 3 CWD scenarios that broadly classify the scale of the disease:

\*Endemic: CWD has persisted for at least 5 years

\*Invasion: CWD was first detected within 5 years

\*Unaffected: CWD has not been detected yet; could also be considered "unknown"

Below, we ask a series of questions for the scenarios where CWD has been detected.

If your entire state is unaffected, please fill out WHAT YOUR AGENCY PLANS TO DO if CWD is detected in the Invasion areas questions and select "N/A" for the Endemic area questions; make sure to only select "Unaffected" for question 1.

Otherwise, if a particular scenario does not occur in your state, please answer "N/A" to those questions.

Response options are simplified in order to focus on the substantial changes an agency may make with respect to CWD management, and smaller changes such as prohibiting baiting are not included.

Which CWD scenarios occur in your state? In other words, which of the following CWD scenarios can management units in your state be classified as? \*  
(select all that apply):

- ☐ Endemic
- ☐ Invasion
- ☒ Unaffected (Unknown)

#### Endemic Areas

Endemic areas: What is your agency's CURRENT management response to CWD, or the CWD management goal? Please select the option(s) that best \* represents your agency's current response:

- ☐ Eradication
- ☐ Spatial control (i.e., stop/slow the spread from "hotspots")
- ☐ Increase harvests within designated areas, but no specific goal to control CWD
- ☐ No change in management, but implementation of surveillance program
- ☐ No response or management goal
- ☐ N/A

☒ Other:

Teach hunters how to live with CWD, such as getting deer tested if they are concerned, teach them how to reduce the probability of having CWD take hold on their land.



Endemic areas: What was your agency's response following the INITIAL detection of CWD in wild deer in your state? Please select the option(s) that best represents your agency's initial response: \*

- ☐ Eradication
- ☐ Spatial control (i.e., stop/slow the spread from "hotspots")
- ☐ Increase harvests within designated areas, but no specific goal to control CWD
- ☐ No change in management, but implementation of surveillance program
- ☐ No response or management goal
- ☐ N/A

☒ Other:

The initial reaction will be a one-time sharpshooting event in an attempt to eradicate the disease. If subsequent testing shows the disease was not eradicated, we will model the extent of the disease and work to live with the disease in the affected areas.

Endemic areas: If your agency response includes or included eradication or spatial control (i.e., past or present), what is the main mechanism of deer removal (select all that apply)? \*

- ☐ Voluntary hunting (i.e., the "standard" management framework)
- ☐ Agency regulated culls/removals
- ☐ Incentivizing or requiring hunters to kill more deer (perhaps of a certain demographic class)
- ☐ N/A

☒ Other:

The one-time attempt will include additional hunting pressure, landowner control, and sharpshooters. After that, concerned landowners will be able to apply for additional disease control permits.

Endemic areas: If your agency response includes or included eradication or spatial control (i.e., past or present), is or was CWD managed at the SAME spatial scale as the "typical" deer management in your state (e.g., county)? \*

- ☐ Yes
- ☒ No - new, smaller CWD units were created
- ☐ No - new, larger CWD units were created
- ☐ N/A

Endemic areas: If your agency response to CWD detection includes or included no change in management (i.e., past or present), please select the primary rationale(s) (select all that apply): \*

- ☐ Voluntary hunting (i.e., the "standard" management framework) will not result in high enough harvest rates to control CWD
- ☐ CWD cannot be controlled via deer removals
- ☒ Changes in management are too expensive to implement
- ☒ Changes in management are unpopular and we were concerned about stakeholder reactions
- ☒ We do not have the capacity (e.g., staff, funds) to respond to CWD
- ☐ N/A
- ☒ Other:  
None of the methods currently being used are effective at stopping the disease. The current outcome of the sharpshooting model is a lower prevalence for 10 years before prevalence starts to increase at a near-exponential rate.

Endemic areas: Have there been significant changes to deer management with respect to CWD? If so, please summarize the change(s) and the year(s) it took place. For example: "Deer were managed to eradicate CWD from the time it was first detected in the state (2008) until 2011. It was no longer considered feasible due to low levels of hunter harvest and CWD was increasing. From 2012-present we manage deer for CWD control with high quotas in CWD-affected counties."

#### Invasion Areas

Invasion areas: What is your agency's CURRENT management response to CWD, or the CWD management goal? Please select the option(s) that best represents your agency's current response: \*

- ☐ Eradication
- ☐ Spatial control (i.e., stop/slow the spread from "hotspots")
- ☐ Increase harvests within designated areas, but no specific goal to control CWD
- ☐ No change in management, but implementation of surveillance program
- ☒ No response or management goal
- ☐ N/A
- ☒ Other:  
We will start a program to teach hunters and landowners to live with CWD in these areas. We assume that invasion is occurring from a source population that cannot be contained.

Invasion areas: If your agency response includes eradication or spatial control, what is the main mechanism of deer removal (select all that apply)? \*

- ☐ Voluntary hunting (i.e., the "standard" management framework)
- ☐ Agency regulated culls/removals
- ☐ Incentivizing or requiring hunters to kill more deer (perhaps of a certain demographic class)
- ☒ N/A
- ☐ Other:

Invasion areas: If your agency response includes eradication or spatial control, is CWD managed at the SAME spatial scale as the "typical" deer management in your state (e.g., county)? \*

- ☐ Yes
- ☐ No - new, smaller CWD units were created
- ☐ No - new, larger CWD units were created
- ☒ N/A

Invasion areas: If your agency response to CWD detection includes no change in management, please select the primary rationale(s) (select all that apply): \*

- ☐ Voluntary hunting (i.e., the "standard" management framework) will not result in high enough harvest rates to control CWD
- ☒ CWD cannot be controlled via deer removals
- ☐ Changes in management are too expensive to implement
- ☐ Changes in management are unpopular and we were concerned about stakeholder reactions
- ☐ We do not have the capacity (e.g., staff, funds) to respond to CWD
- ☐ N/A

☒ Other:

There is no way to contain an invasion once it has begun, assuming the invasion is occurring from a self-sustaining population that is infected with CWD. Therefore, there is no point in starting control activities.

Invasion areas: If there is any additional information about changes in CWD management in invasion areas, or how invasion areas differ from unaffected areas, please summarize the change(s) and the year(s) it took place.

Our area of "invasion" will be determined through modeling and not sampling. Sampling deer is too unreliable and too expensive at low disease prevalence to detect CWD. Once modeling determines that there is a detectable level of CWD (i.e., 1-5%) we will test those areas to confirm the accuracy of the model. Hunters who are concerned about food safety will be able to submit samples from anywhere in the state at our Fish and Wildlife Areas.

## OTHER

Do you believe your agency would be willing to participate in a regional (Midwest/Great Plains) adaptive white-tailed deer management effort, such as a workshop?

- ☒ Yes
- ☐ No
- ☐ Unsure

Please provide any other information you feel is relevant, if any, about how your agency has recorded/implemented hunting tags, reported harvests, conducted management, etc. since the year 2000.

Thank you very much for taking the time to complete this survey!

You may exit your browser after clicking "Submit" below.

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## Midwestern survey about white-tailed deer management and harvest data collection

This is a survey about white-tailed deer management, harvest, and chronic wasting disease data collection. See email from Dan Storm (Wisconsin Department of Natural Resources) for additional information.  
Thank you for your participation!

### State Agency \*

- ☐ Illinois Department of Natural Resources
- ☐ Indiana Department of Natural Resources
- ☐ Iowa Department of Natural Resources
- ☒ Kentucky Department of Fish & Wildlife
- ☐ Michigan Department of Natural Resources
- ☐ Minnesota Department of Natural Resources
- ☐ Missouri Department of Natural Resources
- ☐ Ohio Department of Natural Resources
- ☐ Wisconsin Department of Natural Resources

Name(s), title(s), and email address(es) of biologist(s) completing this survey. \*This will NOT be shared, it is only for follow-up correspondence if necessary. \*

[REDACTED]

### MANAGEMENT SUMMARY

Which generalized description does most ANTLERLESS tag dissemination/allocation fall into in your state: \*

"Quota system": hunters can purchase as many tags as they'd like until a quota limit is reached (per spatial unit, such as the state or per county)

- ☒ "Bag system": hunters have a bag limit for a specific spatial unit - more specifically, hunters purchase an approval (often referred to as a 'license'), which allows them to harvest up to a certain number of deer (per spatial unit, such as the state or per county)

"Lottery system": hunters purchase entries to a lottery where only a set number of individuals can receive tags (per spatial unit, such as the state or per county)

Other:

\_\_\_\_\_

Which generalized description does most ANTLERED tag dissemination/allocation fall into in your state? \*

- ☐ "Quota system": hunters can purchase as many tags as they'd like until a quota limit is reached (per spatial unit, such as the state or per county)
- ☒ "Bag system": hunters have a bag limit for a specific spatial unit - more specifically, hunters purchase an approval (often referred to as a 'license'), which allows them to harvest up to a certain number of deer (per spatial unit, such as the state or per county)
- ☐ "Lottery system": hunters purchase entries to a lottery where only a set number of individuals can receive tags (per spatial unit, such as the state or per county)
- ☐ Other: \_\_\_\_\_

Are most deer harvested on private or public land in your state? \*

- ☒ Private
- ☐ Public
- ☐ Unsure

#### HUNTER INFORMATION & HARVEST REGISTRATION

How can hunters obtain tags? (select all that apply) \*

- ☒ On line
- ☐ Over the phone
- ☒ In person
- ☐ By mail
- ☐ Other: \_\_\_\_\_

Are hunters given a unique identifier in the database that can be tracked longitudinally (i.e., a customer number)? \*

- ☒ Yes
- ☐ No

Is there hunter registration of harvests in your state? \*

- ☒ Yes
- ☐ No
- ☐ Other: \_\_\_\_\_

Is registration mandatory? \*

☒ Yes

☐ No

☐ N/A

☐ Other: \_\_\_\_\_

Is your hunter harvest registration (select all that apply): \*

☒ On ine

☒ Over the phone

☐ In person

☐ By mail

☐ N/A

☐ Other: \_\_\_\_\_

At the deer management unit level (e.g., county), registered harvest can be reported/summarized by (select all that apply): \*

☒ Number of bucks and does harvested

☒ Number of deer harvested by age class (e.g., fawns, adults)

☒ Tag type used to kill the deer

☒ Number of deer killed by season and/or weapon types

Is harvest linked back to individual hunters? For example, using a hunters' unique identifier, you are able to determine if a specific hunter filled their tag(s). \*

☒ Yes

☐ No

If yes above, what information about harvested deer is linked to individual hunters (select all that apply): \*

☒ Deer sex

☒ Deer age

☒ Tag type used to kill the deer

☒ Season they killed the deer in (may correspond to tag type or weapon used)

☒ Unit(s) they harvested deer in

☐ N/A



Does your agency estimate the error in reported harvest? For example, the percent of hunters that do not register their harvests. \*

☒ Yes

☐ No

If yes to above, please briefly state how (e.g., follow-up survey):

We use a percentage that was derived from a survey conducted several years ago.

Are hunters surveyed about their hunting experiences, such as hours spent hunting, days spent hunting, number of deer seen, quality of their hunting experience, and/or unit(s) they hunted in that may or may not have resulted in a harvest? \*

☒ Yes

☐ No

If yes to the question above, is this post-hunt survey mandatory? \*

☐ Yes

☒ No

☐ N/A

☐ Other: \_\_\_\_\_

In what year was hunter-level tag and harvest tracking first available? Please leave this blank if not applicable.

2000

#### DATA RESOLUTION

The following questions address the spatial scales at which tags are issued and filled, and the spatial scales these data are recorded. For example, antlered deer tags might be issued and recorded at the state-level (e.g., 450,000 antlered deer tags sold in Wisconsin), while antlered deer harvest might be recorded at the unit-level (e.g., 3,000 antlered deer were harvested in Dane County).

#### TAG ISSUANCE

What is the smallest spatial scale in which ANTLERED deer TAG ISSUANCE is recorded? \*

- ☒ Deer management unit
- ☐ Hunting "zone" or conglomerate of multiple smaller deer management units or counties
- ☐ State
- ☐ This is not recorded
- ☐ Other: \_\_\_\_\_

What is the smallest spatial scale in which ANTLERLESS deer TAG ISSUANCE is recorded? \*

- ☒ Deer management unit
- ☐ Hunting "zone" or conglomerate of multiple smaller deer management units or counties
- ☐ State
- ☐ This is not recorded
- ☐ Other: \_\_\_\_\_

Have there been significant changes to the tag issuance process since 2000? If so, please summarize the change(s) and the year(s) it took place. For example: "Tags were issued at an aggregated spatial scale (i.e., Zone comprising many counties) from 1990-2004, then tags were issued per county from 2005-present".

\_\_\_\_\_

#### DEER HARVEST

What is the smallest spatial scale in which ANTLERED deer HARVEST is recorded? \*

- ☒ Deer management unit
- ☐ Hunting "zone" or conglomerate of multiple smaller deer management units or counties
- ☐ State
- ☐ This is not recorded
- ☐ Other: \_\_\_\_\_

What is the smallest spatial scale in which ANTLERLESS deer HARVEST is recorded? \*

- ☒ Deer management unit
- ☐ Hunting "zone" or conglomerate of multiple smaller deer management units or counties
- ☐ State
- ☐ This is not recorded
- ☐ Other: \_\_\_\_\_

Have there been significant changes to the spatial scale of recorded harvest since 2000? If so, please summarize the change(s) and the year(s) it took place. For example: "From 1986-2012, deer harvests were summed by deer management units (county). From 2013-present, we ask hunters to estimate the coordinates of their harvests in our online registration system using an interactive map."

\_\_\_\_\_

#### CHRONIC WASTING DISEASE

##### GENERAL

Has your agency surveyed hunters about their opinions/perceptions of CWD with respect to changes in hunting participation? \*

- ☐ Yes
- ☐ No
- ☒ This research is currently underway

Has your agency quantified empirical changes in hunter behavior of TAG ACQUISITION, such as a decrease or increase in the number of tags hunters obtain following an increase in CWD prevalence (using tag issuance data, NOT using survey data)? \*

- ☐ No
- ☐ Yes - we analyzed/are analyzing per capita tag acquisition
- ☐ Yes - we analyzed/are analyzing tag acquisition at the unit-level
- ☐ Yes - we analyzed/are analyzing tag acquisition at the state-level
- ☒ N/A

Has your agency quantified empirical changes in hunter behavior of DEER HARVEST (i.e., filling tags), such as a decrease or increase in the number of tags hunters obtain following an increase in CWD prevalence (using tag issuance data, NOT using survey data)? \*

- ☐ No
- ☐ Yes - we analyzed/are analyzing per capita harvests
- ☐ Yes - we analyzed/are analyzing harvests at the unit-level
- ☐ Yes - we analyzed/are analyzing harvests at the state-level
- ☒ N/A

#### CWD MANAGEMENT

There may be differences in CWD prevalence and management within each state. Here we define 3 CWD scenarios that broadly classify the scale of the disease:

\*Endemic: CWD has persisted for at least 5 years

\*Invasion: CWD was first detected within 5 years

\*Unaffected: CWD has not been detected yet; could also be considered "unknown"

Below, we ask a series of questions for the scenarios where CWD has been detected.

If your entire state is unaffected, please fill out WHAT YOUR AGENCY PLANS TO DO if CWD is detected in the Invasion areas questions and select "N/A" for the Endemic area questions; make sure to only select "Unaffected" for question 1.

Otherwise, if a particular scenario does not occur in your state, please answer "N/A" to those questions.

Response options are simplified in order to focus on the substantial changes an agency may make with respect to CWD management, and smaller changes such as prohibiting baiting are not included.

Which CWD scenarios occur in your state? In other words, which of the following CWD scenarios can management units in your state be classified as? \*  
(select all that apply):

- ☐ Endemic
- ☐ Invasion
- ☒ Unaffected (Unknown)

#### Endemic Areas

Endemic areas: What is your agency's CURRENT management response to CWD, or the CWD management goal? Please select the option(s) that best \*  
represents your agency's current response:

- ☐ Eradication
- ☒ Spatial control (i.e., stop/slow the spread from "hotspots")
- ☒ Increase harvests within designated areas, but no specific goal to control CWD
- ☒ No change in management, but implementation of surveillance program
- ☐ No response or management goal
- ☐ N/A
- ☐ Other: \_\_\_\_\_

Endemic areas: What was your agency's response following the INITIAL detection of CWD in wild deer in your state? Please select the option(s) that best represents your agency's initial response: \*

- ☐ Eradication
- ☐ Spatial control (i.e., stop/slow the spread from "hotspots")
- ☒ Increase harvests within designated areas, but no specific goal to control CWD
- ☒ No change in management, but implementation of surveillance program
- ☐ No response or management goal
- ☐ N/A
- ☒ Other: Not detected yet

Endemic areas: If your agency response includes or included eradication or spatial control (i.e., past or present), what is the main mechanism of deer removal (select all that apply)? \*

- ☒ Voluntary hunting (i.e., the "standard" management framework)
- ☐ Agency regulated culls/removals
- ☐ Incentivizing or requiring hunters to kill more deer (perhaps of a certain demographic class)
- ☐ N/A
- ☒ Other: Reduce restrictions within the area affected.

Endemic areas: If your agency response includes or included eradication or spatial control (i.e., past or present), is or was CWD managed at the SAME spatial scale as the "typical" deer management in your state (e.g., county)? \*

- ☐ Yes
- ☐ No - new, smaller CWD units were created
- ☐ No - new, larger CWD units were created
- ☒ N/A

Endemic areas: If your agency response to CWD detection includes or included no change in management (i.e., past or present), please select the primary rationale(s) (select all that apply): \*

- ☐ Voluntary hunting (i.e., the "standard" management framework) will not result in high enough harvest rates to control CWD
- ☐ CWD cannot be controlled via deer removals
- ☐ Changes in management are too expensive to implement
- ☐ Changes in management are unpopular and we were concerned about stakeholder reactions
- ☐ We do not have the capacity (e.g., staff, funds) to respond to CWD
- ☒ N/A
- ☐ Other: \_\_\_\_\_

Endemic areas: Have there been significant changes to deer management with respect to CWD? If so, please summarize the change(s) and the year(s) it took place. For example: "Deer were managed to eradicate CWD from the time it was first detected in the state (2008) until 2011. It was no longer considered feasible due to low levels of hunter harvest and CWD was increasing. From 2012-present we manage deer for CWD control with high quotas in CWD-affected counties."

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### Invasion Areas

Invasion areas: What is your agency's CURRENT management response to CWD, or the CWD management goal? Please select the option(s) that best <sup>\*</sup> represents your agency's current response:

- ☐ Eradication
- ☐ Spatial control (i.e., stop/slow the spread from "hotspots")
- ☒ Increase harvests within designated areas, but no specific goal to control CWD
- ☒ No change in management, but implementation of surveillance program
- ☐ No response or management goal
- ☐ N/A
- ☐ Other: 

---

Invasion areas: If your agency response includes eradication or spatial control, what is the main mechanism of deer removal (select all that apply)? <sup>\*</sup>

- ☐ Voluntary hunting (i.e., the "standard" management framework)
- ☐ Agency regulated culls/removals
- ☐ Incentivizing or requiring hunters to kill more deer (perhaps of a certain demographic class)
- ☒ N/A
- ☐ Other: 

---

Invasion areas: If your agency response includes eradication or spatial control, is CWD managed at the SAME spatial scale as the "typical" deer management in your state (e.g., county)? <sup>\*</sup>

- ☐ Yes
- ☐ No - new, smaller CWD units were created
- ☐ No - new, larger CWD units were created
- ☒ N/A

Invasion areas: If your agency response to CWD detection includes no change in management, please select the primary rationale(s) (select all that apply): \*

- ☐ Voluntary hunting (i.e., the "standard" management framework) will not result in high enough harvest rates to control CWD
- ☐ CWD cannot be controlled via deer removals
- ☐ Changes in management are too expensive to implement
- ☐ Changes in management are unpopular and we were concerned about stakeholder reactions
- ☐ We do not have the capacity (e.g., staff, funds) to respond to CWD
- ☒ N/A
- ☐ Other: \_\_\_\_\_

Invasion areas: If there is any additional information about changes in CWD management in invasion areas, or how invasion areas differ from unaffected areas, please summarize the change(s) and the year(s) it took place.

\_\_\_\_\_

#### OTHER

Do you believe your agency would be willing to participate in a regional (Midwest/Great Plains) adaptive white-tailed deer management effort, such as a workshop?

- ☒ Yes
- ☐ No
- ☐ Unsure

Please provide any other information you feel is relevant, if any, about how your agency has recorded/implemented hunting tags, reported harvests, conducted management, etc. since the year 2000.

\_\_\_\_\_

Thank you very much for taking the time to complete this survey!

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