MINNESOTA WHITE-TAILED DEER MANAGEMENT PLAN

Midpoint Review: 2019 to 2024

DEPARTMENT OF NATURAL RESOURCES

DEPARTMENT OF NATURAL RESOURCES

Table of Contents

Introduction and report orientation **4**

Emerging considerations related to deer management **5**

Goal A: COMMUNICATION, INFORMATION SHARING, AND PUBLIC INVOLVEMENT: Foster trusting, respectful, and effective two-way communication between DNR and the public regarding deer management 6

Achievements towards Goal A objectives FY20 to FY24: **7**

Goal A priority areas for FY25 to FY29 related to communication, information sharing, and public involvement: 8

Performance metric A.1: Engagement Opportunities 9

Performance metrics A.2.: Timeliness of information about deer season decisions 10

Goal B: DEER STAKEHOLDER SATISFACTION: Consider social dimensions of deer management decisions. 11

Achievements towards Goal B objectives FY20 to FY24: **12**

Goal B priority areas FY25 to FY29 related to deer stakeholder satisfaction: 12

Performance metric B.1.: Adherence to public trust governance principals related to deer management 13

Performance metrics B.2.: Public land access for deer-related recreation 15

Performance metrics B.3.: Private land access for public hunting 16

Goal C: POPULATION MANAGEMENT, MONITORING AND RESEARCH: Manage deer adaptively, considering both biological and social information in decision-making 17

Achievements towards Goal C objectives FY20 to FY24: **17**

Goal C priority areas FY25 to FY29 related to population management, monitoring, and research: 18

Performance metric C.1.: Deer permit areas (DPAs) in goal range 19

Performance metric C.2.: Deer harvest 21

Goal D: HEALTHY DEER: Support deer herd health by monitoring and addressing disease 22

Achievements towards Goal D objectives FY20 to FY24: **23**

Goal D priority areas FY25 to FY29 related to healthy deer: 24

Performance metrics D.1.: Deer disease surveillance success 25

Performance metrics D.2.: Size of disease-positive core areas 26

Goal E: HEALTHY HABITAT: Maintain natural wildlife habitat by protecting, enhancing, and restoring habitat and by managing for an appropriate number of deer 27

Achievements towards Goal E objectives FY20 to FY24: **28**

DRAFT

Goal E Priority areas FY25 to FY29 related to Healthy habitat: 29

Performance metric E.1.: Deer habitat management 29

Goal F: IMPACT OF DEER ON OTHER RESOURCES: Reduce negative impacts of deer to the land, resources, and other species, including people. 31

Achievements towards Goal F objectives FY20 to FY24: **31**

Goal F Priority areas FY25 to FY29 related to Impact of deer on other resources: 32

Performance metric F.1.: Deer damage complaints reported to wildlife damage program 32

Performance metrics F.2.: Deer damage work completed 33

Performance metrics F.3.: Special hunts 35

Goal G: DEER MANAGEMENT FUNDING: Seek sufficient funding and promote cost-effective deer management 35

Achievements towards Goal G objectives FY20 to FY24: **36**

Goal G priority areas FY25 to FY29 related to deer management funding: 36

Performance metrics G.1.: Spending on deer management and research 36

Performance metrics G.2.: Spending on deer disease 37

Goal H: DNR DEER MANAGEMENT: Practice and ensure continuous improvement within DNR's deer management program and supporting activities. 38

Achievements towards Goal H objectives FY20 to FY24: **38**

Goal H priority areas FY25 to FY29 related to DNR deer management: 39

SUMMARY OF PRIORITY RECOMMENDATIONS FOR FY25 TO FY29 39

DRAFT

Introduction and report orientation: The Minnesota White-tailed Deer Management Plan (hereafter, deer plan) was completed in 2018 through a public process which included internal subject matter expert review, a citizen advisory team - the Deer Management Plan Advisory Committee, public meetings, and a public comment period. Tribal partners from all 11 Tribes in Minnesota were included in plan development and review. The need for an overarching plan to guide deer management at a statewide level was identified in the 2016 Office of Legislative Auditors report on the Minnesota DNR deer management program. The deer plan outlines eight overarching goals to guide deer management in Minnesota over a 10-year period. For each goal, a series of objectives are identified to provide specific guidance. Fifteen metrics and associated targets were developed to measure progress and assess performance towards deer plan priorities. This report serves as the midpoint review identified in the plan to occur during 2023 to 2024. This review is not intended to replace the original plan, but to amend and supplement the plan priorities where needed and includes an assessment of work towards goals and objectives, performance towards metric targets, emerging considerations related to deer management, and priorities to guide work over the next five years. At the time of this midpoint review, only three of the 13 metrics with targets (two metrics do not have targets) were met during all five years, although an additional 3 metrics were met in at least one of the fiscal years during the review and an additional 3 metrics were within 7% or less of the target during one of the fiscal years. These targets were set to be challenging to achieve, and all were not expected be met within a five-year timeframe. The COVID-19 pandemic contributed to some of the difficulties in achieving targets, including a hiring freeze during fiscal years (FY) 20 and 21 which affected the capacity of staff to complete work. Future work priorities should focus on removing barriers identified during the first half of the plan to achieve targets during the second half of the plan. However, performance metrics were not intended to measure all the work done for deer management, and significant achievements are noted for each goal. Near-term strategies were also identified in the deer plan as recommendations for initial work towards each of the eight goals, and 23 of the achievements noted in the review are directly related to those strategies. The timeframe considered under this review includes FY20 through FY24; fiscal years are designated as July 1 to June 30, and recommendations are made for the next phase of the plan to occur during FY25 to FY29.

Fiscal year	Timeframe
FY20	July 1, 2019 to June 30, 2020
FY21	July 1, 2020 to June 30, 2021
FY22	July 1, 2021 to June 30, 2022
FY23	July 1, 2022 to June 30, 2023
FY24	July 1, 2023 to June 30, 2024

Report Orientation

This report contains three main parts and is primarily structured around the goals identified in the deer plan. However, the first portion of the report below presents emergent considerations related to deer management. Next follows a review of each of the eight goals and relevant achievements and priorities for the next phase of the plan. Achievements that are related to near-term strategies identified in the deer plan are noted with the † superscript. Performance metrics and associated targets are also reported for each goal. Performance metric assessments are identified by the metric icon:

DRAFT

A concise table at the end of the document summarizes all recommendations and associated goals.

Emerging considerations related to deer management

Work on the current deer plan was conducted from 2016 to 2018. Since the deer plan's completion in 2018, several factors have emerged that were not originally anticipated, not fully realized, or circumstances surrounding the issue have changed. These themes are related to several goals outlined in the deer plan and help inform recommendations and future work priorities for the next phase of the deer plan.

- **Wolves, winter severity, and deer.** Public concerns about wolf and deer numbers increased throughout the timeframe of this review but became highly evident after the 2023 deer season. These issues relate to many different aspects of DNR work and a multi-faceted approach to further addressing these issues is needed. For example, additional field research is needed to identify potential changes in the dynamics among wolves, deer, habitat, and winter severity in Northern Minnesota and more proactive messaging is needed concerning the DNR's wolf management and the impact of wolves being listed through the federal Endangered Species Act.
- **Chronic wasting disease (CWD).** Since the deer plan was completed in 2018, the geographic footprint of CWD in Minnesota has unfortunately expanded to include new areas of the state; notably into northern Minnesota where deer population density is much different than where CWD was originally detected (southeastern Minnesota). The continued presence of the disease on the landscape and associated management tools used to prevent disease spread contribute to hunter, landowner, and staff fatigue for CWD management. New and adaptive approaches are important to continue to maintain public and internal agency support for CWD management.
- **Technological advances in hunting equipment**. Technological advances in weapons and equipment used to hunt deer may not have been fully anticipated under the original plan. New tools including instantaneous texting features on cellular trail cameras, drones, infrared and night-vision devices, and tracking features on arrows are just a few of the emerging technologies available to hunters. These new technologies raise questions surrounding hunting ethics and population impacts. Further, during the 2023 legislative session, statute language was changed to allow crossbows as a legal archery weapon, which was not an anticipated change during plan development.
- **New Electronic Licensing System (ELS).** Work is currently underway to develop a new ELS system which will include technological advancements in the way deer licenses are purchased and used, and how the DNR can collect information on deer and deer hunters. The anticipated 'go-live' date for the new ELS system is March 2025.
- **Hunter selectivity.** In recent years, hunters appear to be becoming more selective in which deer they chose to harvest, preferring antlered bucks over antlerless deer. For example, in the 200/300/600 series areas in Minnesota (where higher bag limits are typically offered) the proportion of harvest attributed to antlered bucks has exceeded antlerless harvest during the timeframe of this review (FY20 to 24). In 2020, antlered buck harvest exceeded antlerless harvest in the 300/600 series for the first time in 17 seasons, and that trend has continued (likely due to the rescinding of the antler point restrictions) in 2021, 2022 and 2023. In the 200 series, there has been a steady decline in the proportion of antlerless deer in the harvest since 2003. This selectivity can affect the ability of the DNR to manage deer populations in those areas that

DRAFT

are above or at population goals. This issue, coupled with declining hunter participation (see below) is a worrying issue for deer management in the state and other places nationally, since this issue is not unique to Minnesota.

- **Declining deer hunter participation**. Although this issue was evident when the plan was written, the trend in deer hunter decline coupled with an aging hunter population has only continued and may not have been given sufficient attention in the deer plan. Deer hunter numbers have declined 6% from 474,905 in 2018 to 446,213 in 2023. At the current rate of decline (average decline of 1.5% from 2017 to 2023) Minnesota could be below 420,000 deer hunters by 2028, or if the rate of decline increases to 2% (which it has in recent years), deer hunter numbers will be below 406,000 by 2028. This issue elevates the importance of work to increase hunter retention, recruitment, and reactivation (commonly referred to as R3) and alternative funding sources to guide deer management, as well as a need to consider alternative regulatory approaches for the management of deer populations when they exceed social preferences.
- **Our changing forests**: Forests make up an important component of white-tailed deer habitat in Minnesota, providing cover from winter and summer extremes as well as predators, and important food sources during every season of the year. However, current and future risks to forested deer habitat are seemingly increasing in magnitude and include climate change, diseases (Amillaria), pests (emerald ash borer, spongy moth, two lined chestnut borer), and invasive species (buckthorn). Further, obstacles for forest management include the projected large reduction in soil frost days by the end of the century, which may severely constrain the ability of managers to access forest resources during what is historically the most productive season for loggers in the upper Midwest. White cedar regeneration remains a major challenge to provide adequate winter cover for northern deer populations. While deer are typically considered a very adaptable species, our ability to manage deer habitat will need to also adapt to these challenges in future years.

Goal A: COMMUNICATION, INFORMATION SHARING, AND PUBLIC INVOLVEMENT: Foster trusting, respectful, and effective two-way communication between DNR and the public regarding deer management

Six objectives were identified for Goal A in the deer plan:

- Ensure deer management decisions consider public values, preferences, and concerns, and that input opportunities are transparent, inclusive, and responsive
- Provide relevant, timely and accessible information about deer management
- Build upon and promote public engagement through communication and input opportunities at local, regional, and statewide levels
- Establish an ongoing, statewide deer input group
- Enhance local relationships through formal and informal discussion with area wildlife managers
- Use an input process to identify public recommendations for deer population goals

One performance metric target related to engagement opportunities has been met, while another related to timeliness of information has not (See performance metric A.1. and A.2.pages 10 and 11). While the number of opportunities for public engagement has been achieved, public participation in

these opportunities remains low. In-person public opportunities (typically held at area wildlife offices) for public engagement have not been well attended. During the next phase of the deer plan, alternative opportunities for engagement should be identified that are meaningful and fulfilling to the public to increase participation. Emerging considerations related to communication and public involvement include increased public interest and frustration related to wolves and deer, and a need to better communicate to and engage with the public about controversial issues related to deer management. Below is a detailed list of work conducted during FY20 to FY23 related to communication, information sharing, and public involvement.

Achievements towards Goal A objectives FY20 to FY24:

- Deer population goals were revised statewide from 2019 to 2023; public engagement in the goal setting process was revised to be more inclusive and transparent to the public†; and the new process included consideration of goals of greater than 50% change in deer populations based on deer plan recommendations†.
- The citizen Deer Advisory Committee was created in 2019†. Members serve 3–4-year terms; a second cohort was selected in 2023. During FY20 to FY24, 23 meetings were held with members providing input on deer management issues including deer population goal setting, changes to the early antlerless season, bag limits in CWD areas, the deer feeding and attractant ban, Deer Permit Area (DPA) boundary changes, survey questions to deer hunters, and legislative initiatives among other issues.
- Accessibility of the Big Game Hunting and Trapping regulations booklet and deer season map improved via translation into Hmong, Karen, Somali, and Spanish languages.
- Forty issues of the Deer Notes email newsletter were distributed†. The DNR initiated Deer Notes in 2014 and the newsletter currently has over 30,000 email subscribers. This monthly newsletter allows for timely direct distribution of deer-related information including public input opportunities and has an open rate of 39%, which is above the 36% DNR-wide average of all newsletters.
- Continuous improvement of website content related to deer season regulations (e.g., "make a plan" framing for deer regulations enables the public to quickly and efficiently locate DPA-specific regulations and resources).
- Improvements to the interactive deer permit area map. Originally created in 2015, this important tool is continually updated and improved by MNIT DNR staff. Improvements added FY20 to FY24 include the addition of deer carcass movement restriction information, a drop-down list for DPA selection, links to the make-a-plan tool, and the addition of deer feeding and attractant ban information. The detail reports for each DPA are also updated on an annual basis to include information from the local area wildlife manager describing the rationale for the selected bag limit designation†.
- The CWD interactive map was created in 2017 to help hunters locate CWD-related information such as sample site locations, public and private land coverage and contact information, DNR area wildlife offices, and Conservation Agent patrol areas. Improvements to the interactive CWD map FY20 to FY24 have included the addition of carcass movement restriction boundaries, firearms restriction areas, carcass dumpster locations, meat processor and taxidermist information, and a statewide DPA township-range-section lookup feature to help hunters enter data on CWD sampling tags using a QR code.

† Achievement identified as or closely related to a near-term strategy for this goal in the deer plan.

- A post-deer season questionnaire has been available for public engagement each year. Typically posted online for a 30-day period January through March, this opportunity is open to any person to comment on DPA-specific deer population management, including opportunities for open-ended comments. Public engagement in this opportunity has varied from 3,210 responses in FY21 to 6,034 responses in FY24. These responses are shared with local staff preceding deer season setting each spring.
- An in-season harvest information application was added to the webpage in FY20 to provide DPA-specific, as well as weapon- and season-specific deer harvest information to the public throughout the deer season†. Previously, deer harvest information was only released to the public post-season.
- Nine webinars related to deer or deer-hunting were recorded in the Minnesota Outdoor Skills and Stewardship series and posted online for public viewing, FY20-FY24. Almost 1,000 people participated in the webinars live and the recordings have been viewed nearly 8,000 times.
- During FY21, the 'learn to hunt deer' web series was created and has over 21,000 views across 14 recorded videos available online covering topics ranging from deer biology and natural history to hunting techniques, equipment, and regulations. In FY24, six mentored hunt education programs related to deer hunting for adults new to deer hunting were offered through the FAW Outreach Becoming an Outdoors Woman and Learn to Hunt programs.
- 976 media interviews (FY20 = 180, FY21 = 180, FY22 = 177, FY23 = 194, FY24 = 245) conducted by big game program, wildlife health program, regional and area wildlife, research unit, and enforcement staff related to deer, deer-hunting, and CWD.
- Two positions related to public outreach, stakeholder relationships, and communication about deer management issues and tools (with a specific emphasis on CWD and deer damage to croplands and forest) were created and filled in the Big Game Program. These two Big Game Program Specialist positions have a geographic focus on northern or southern Minnesota.
- Improved information available to the public about winter severity and how winter effects deer populations via a dedicated webpage.

Goal A priority areas for FY25 to FY29 related to communication, information sharing, and public involvement:

i) **Improve deer harvest and population information available to the public.** Current deer harvest and population information available to the public includes the Big Game Hunting and Trapping Regulations booklet, the Deer Harvest Summary Report, and the Deer Population Modelling report. The harvest summary report and population modeling reports are technical reports, and the regulations booklet focuses on regulations and statutes related to hunting. There is a need for a public-friendly resource explaining trends in deer populations, deer harvest, hunter participation, and information on deer population monitoring, management, and public engagement to supplement the Deer Harvest Summary Report.

ii) **Improve DNR communications related to wolves and deer populations.** Conduct more proactive communication on the complex set of issues surrounding wolves and deer, including the impacts wolves have on deer, the Endangered Species Act and how it limits state wolf management, and the DNR's stance on, and plan for, wolf management. Use a variety of methods including webinars, posted videos, white papers, and social media.

iii) **Improve information available to the public about deer population modeling and deer related research.** There is both internal and external confusion among DNR staff and the public regarding the current deer population model and its utility, limitations, and opportunities for

DRAFT

improvement. A public facing webpage with more detailed information as well as internal and external webinars about deer population modeling and monitoring is recommended.

iv) **Improve public communication about moose and deer management tradeoffs; provide clear direction for deer management in primary moose range.** The Moose Research and Management Plan is overdue for revision and presents an opportunity to better address public communication needs related to moose and deer management.

v) **Improve messaging about localized deer population culling for CWD management.** Culling is a very controversial management tool employed to remove deer from the landscape that are likely to have (and spread) CWD. There is an abundance of misinformation and confusion among the public related to localized culling. Providing the public with explanations and justification for this management tool, updated numbers on the number of deer removed in each area where culling occurs, as well as the spatial distribution of culling activities is important to continue to maintain and build upon stakeholder support for CWD management.

vi) **Continue to explore simplification of regulations** including consideration of season structure and the number of available deer license types, elimination of statewide bag limit (which serves no biological purpose since bag limits are also set at the deer permit area) and aggregated bag limit restrictions (the ability of hunters to fill the bag limit in one designation and continue to harvest deer in a different permit area with the same designation). Improve upon the hunting regulations booklet to limit ambiguity, clearly explain hunting related regulations for the public and reduce regulatory complexity that can be a barrier for new or returning hunters.

vii) **Improve public participation in deer-related engagement opportunities**. There are approximately half a million deer hunters in the state and Minnesota, and even more wildlife enthusiasts who enjoy deer. There are also people and communities of interest who experience conflict with deer. Increasing engagement will ultimately improve the DNRs ability to manage deer as a public trust (see related performance metric below).

viii) **Assess the need to adjust department outreach practices to provide more timely public information related to the deer hunting season**. Current internal DNR practices restrict when deer hunting information (such as harvest designations) can be made public. Adjusting some of these policies may results in the public receiving hunting information sooner. (see related performance metric on page 11).

Performance metric A.1: Engagement Opportunities

- ***Description:*** *Number of scheduled opportunities for in-person contact with deer stakeholders, including public meetings, presentations to public or stakeholder groups, and attendance of DNR wildlife staff at community events and meetings hosted by deer stakeholders where stakeholders have an opportunity for two-way dialogue.*
- ***Target:*** *Increase by 25 percent from 2019 to 2024*
- ***Classification:*** **MET**

Included in this metric are all public meetings that were specifically related to deer, were advertised in MN DNR news releases, and provided the public an opportunity for a two-way dialogue. Also included are scheduled in-person engagements that shifted to online/phone/email when impacted by the COVID pandemic. Prior to the completion of the deer plan in FY18 there were 35 public meetings scheduled, and in FY24 there were 35 (Table 1).

DRAFT

Table 1: The number of scheduled opportunities, by type, where stakeholders had an opportunity for a two-way dialogue with the DNR, FY20 to FY24.

Fiscal Year	Deer Open House (Now: Let's Talk About Wildlife)	Deer Population Goal Meetings	CWD related meetings	Listening session	Total
FY20	68	8			76
FY21	35	1	1		37
FY22	68	3	2		73
FY23	68	2	2	1	73
FY24	34	0	0	1	35

Performance metric assessment: This performance metric is appropriate for the Goal and the target is appropriate, attainable, and current business practices allow the progress towards the target to be easily measured. However, a lack of engagement and participation by the public during these meetings has been identified as an obstacle. Very few people take advantage of the opportunities provided through the Deer Open Houses (recently reframed as "Let's Talk About Wildlife" office hours); as attendance of less than 150 people statewide was recorded for each FY when in-person opportunities were offered. The majority of interested public is either not aware of or prefers not to engage in these opportunities as designed. Attempts to increase awareness by promoting the opportunities in the Big Game Hunting and Trapping Regulations booklet were not successful (short news release items and inclusion of these opportunities in the Deer Notes Newsletter and social media are already a current practice). It is also possible the public prefers to engage with agency staff via social media or other means rather than in-person opportunities. Further, the 25% target was only identified to be achieved by FY23. Now that the target has been achieved, current efforts could continue, efforts could increase towards a new higher target, or a different type of performance metric could be monitored. Although the target has been achieved, DNR should continue assess alternative performance metrics and/or means to engage the public on deer-related issues. For example, targeting engagement opportunities at diverse and/or new groups and communities could be considered to broaden support for deer hunting and management. The Deer Advisory Committee should be engaged to determine how the DNR should continue to engage with the public about deer-related issues, including an emphasis on nontraditional audiences.

Performance metrics A.2.: Timeliness of information about deer season decisions

- ***Description:*** *Date when the DNR publicly communicates general population management direction by Deer Permit Area (DPA).*
- ***Target:*** *Annually before July 1*
- ***Classification:*** **NOT MET**

Due the timeline and deadlines related to deer season setting, the rule-making process, and the development of the Big Game Hunting and Trapping Regulations booklet, releasing comprehensive public information by July 1 has not been achievable. Rather, information becomes public after the Big Game Hunting and Trapping Regulations booklet is published on or very close to August 1 each year. Table 2 below shows the specific release dates for FY20 to FY24.

DRAFT

Table 2: Yearly release date of deer season information by DPA to the public, FY20 to FY24.

Fiscal Year	Date released
FY20	July 30
FY21	July 20
FY22	July 26
FY23	August 1
FY24	August 1

Performance metric assessment: This performance metric is appropriate for the Goal and current business practices allow progress towards the target to be easily measured. However, current business practices to not release general information about the upcoming deer season prior to the publication of the Big Game Hunting and Trapping Regulations booklet precludes the feasibility of meeting the July 1 target. The intent is to ensure hunters have all hunting season information available at the same time, rather than providing a subset of information before all season details are finalized. In order to meet the July 1 target, either the timeline of publication of the Big Game Hunting and Trapping Regulations booklet needs to be moved to July 1, or the business practice of not releasing information ahead of the regulations booklet publication needs to be modified. It is not likely the date of publication can be changed given the proposed deer season structure must be formally approved prior to completion and distribution of the regulations booklet, and that timeline is not easily changed. The Deer Advisory Committee should be utilized to identify what types of information would be most informative to the public prior to August 1 and for DNR to determine if internal practices can be modified to accommodate release of that information.

Goal B: DEER STAKEHOLDER SATISFACTION: Consider social dimensions of deer management decisions.

Three objectives were identified under Goal B in the management plan:

- Build and maintain broad support of deer stakeholders for DNR deer management
- Improve the DNR's knowledge of factors that shape public satisfaction rates
- Encourage new participation that builds upon Minnesota's deer hunting traditions

Access to public and private land for hunting was also included as a measure of this goal in the deer plan. Achievements and successes related to public satisfaction have included the added capacity of staff dedicated to human dimensions and social science work in the DNR wildlife section, the completion of representative surveys of the public related to deer management that included questions to assess public trust, the expansion of the youth deer hunting season statewide in 2019, and a total cumulative offering of 108 adult-mentored and youth special deer hunts for new adult hunters and youth hunters during FY20 to FY24. There are three performance metrics in the plan related this goal: metric B.3. (private land access; see page 16) is currently on track, metric B.1. (public trust; see page 13) is slightly below target, and metric B.2. (public land access; see page 14) is well below target.

DRAFT

Achievements towards Goal B objectives FY20 to FY24:

- A dedicated human dimensions social scientist position was added to the DNR wildlife section, and the position was filled in 2019. This position focuses on human dimensions work related to management of game species, with a specific emphasis on deer.
- Two positions related to public outreach, stakeholder relationships, and communication about deer management issues and tools (with a specific emphasis on CWD and deer damage to croplands and forest) were created and filled in the Big Game Program. These two Big Game Program Specialists positions have a geographic focus on northern or southern Minnesota.
- Public land hunting access improvement included over 7,500 miles of work completed on Wildlife Management Area (WMA) boundary management, and access development, maintenance, and improvement. Over 10,000 facilities (e.g., parking lots, camp sites, hunter blinds, and observation platforms) have undergone development, maintenance, or improvement on WMAs.
- Youth deer season expanded statewide in 2019[†]. This near-term strategy for Goal B was identified in the deer plan as an early priority. Participation in this season is difficult to track as it does not require a special permit or validation (any licensed youth hunter can participate), but harvest has varied from 8,348 deer in 2021 to 5,668 deer in 2023.
- Nine representative public attitude surveys for deer population goal setting blocks were conducted in FY20 through FY24[†]. Three more human dimension surveys were also completed including a CWD hunter survey (FY20), a lapsed deer hunter survey (FY21), and a deer hunter satisfaction survey[†] (FY23). Survey reports are available to the public.
- From FY20 to FY24, a total of 108 special deer hunts were offered for youth or new adult hunters.
- Improvements to the Walk-in-Access (WIA) webpage and electronic map to provide additional opportunities for users to locate WIA lands.
- A DNR initiative to make WMA accessibility more inclusive by changing the statutory provision allowing power-driven mobility devices to cover “people with disabilities” and not just “disabled hunters” was passed by Legislature in FY23.
- Continued to provide enhancements to the WIA Electronic Information System, which the DNR uses to generate landowner agreements and track WIA enrollments.
- A DNR initiative to require blaze orange coverings on ground blinds used by deer hunters on public land with the intent to improve hunter safety was passed by the Legislature in FY23.

Goal B priority areas FY25 to FY29 related to deer stakeholder satisfaction:

i) **Increase frequency of collection of representative survey data on public trust in deer management, annually if possible**. These surveys should include standardized questions to best assess changes in public trust comparable over time. Frequent public surveys will also allow the DNR to take more responsive actions to increase public trust where possible.

ii) **Complete analysis of the legislative change allowing crossbows as legal archery weapons on deer populations, as directed in statute, by October 2025**. This analysis will use harvest and hunter survey data to determine what impacts, if any, fully legalizing crossbows has on deer population abundance or structure. How crossbows affect hunter participation and license sales will also be examined.

iii) **Improve communication with the public regarding deer and wolf populations, deer and moose populations, and deer modelling and research** (see recommendations for Goal A for more details).

[†] Achievement identified as or closely related to a near-term strategy for this goal in the deer plan.

iv) **Improve information available to the public about DNR decision making related to deer management.** Decisions on harvest settings, habitat enhancement, and disease related choices are all very important for the state's deer herd. Improving the dissemination of information on topics such as these will increase transparency and help to improve public trust. Additional information about deer population management to supplement the technical deer harvest and deer modelling reports, a webpage dedicated to deer monitoring, webinars (internal and external) about deer monitoring and updated information on hunter and public surveys related to deer management are several ways to improve on information available to the public.

v) **Assess the need for policy changes related to emerging technologies in deer hunting.** Hunting technologies continue to improve and advance rapidly, but their effect on game species is not well understood. Assessments of these technologies (e.g., cellular-enabled trail cameras, drones, infrared devices) on deer populations and hunting will be conducted to determine if policy changes are necessary.

vi) **Support the implementation of the R3 plan**. The R3 program focuses on *recruiting* new hunters, *retaining* current participants, and *reactivating* those individuals who have since stopped participating. R3 programs are found within many states throughout the country as a way to boost public involvement with and appreciation of natural resources. The MNDNR program has been working to finalize a Hunter and Angler Recruitment, Retention, and Reactivation plan and it is expected to publish the plan in 2025. Specifically, three strategies will help address R3 goals:
    a. Assess and address barriers to deer hunting for new and diverse audiences, former deer hunters, and deer hunters who may be considering leaving the sport.
    b. Investigate policy and regulation changes that wouldn't pose biological risks for deer but would provide new and increased opportunities for deer hunters, both new and experienced.
    c. Increase networking and mentorship opportunities for current, new, and emerging deer hunters such that everyone has an opportunity to build community, share the knowledge they have, and learn new skills as a mentor or mentee.

Performance metric B.1.: Adherence to public trust governance principals related to deer management

- ***Description:*** *Aggregate index related to the public perceptions of DNR deer management (including soundness of decisions, transparency, engagement, and fiscal integrity).*
- ***Target:*** *Greater than 3.5 (1 to 5 scale)*
- ***Classification:*** **BELOW TARGET, but higher than neutral**

White-tailed deer populations are managed by the MN DNR on behalf of the public. The agency's performance as a manager of the resources entrusted to them is an important metric to track. The deer plan makes provisions for the measurement of Minnesotans' trust in the MN DNR to execute deer management on their behalf. This metric exists to ensure that Minnesotans, on average, trust the MN DNR to manage deer. The deer plan reports that this is achieved if Minnesotans' average response to indicators of trust are greater than or equal to 3.5 on a bi-polar Likert-type agreement scale.

Table 3 contains estimates of Minnesota firearms deer hunter's agreement with indicators of trust in the MN DNR's deer management. These data stem from a survey of deer hunters conducted after the close of the 2021 deer season and represent the average value for all firearm permit holders in the state aged 18 or over at that time. Agreement with trust indicators ranged from a low of 2.98 to a high of 3.29. The mean value of all indicators was 3.09, slightly below the goal of 3.5, but greater than the neutral mid-

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point of the bi-polar scale. The overall assessment of public trust related to DNR deer management indicates that trust is slightly above neutral, with higher support for the competence of DNR deer managers and biologists and public engagement and less support for DNR decision-making.

Table 3: Mean response to trust related questions about the Minnesota DNR deer management from a 2021 survey on deer hunter attitudes.

	Mean response to trust items[1]	
	7-point scale	5-point scale[2]
The MNDNR does a good job managing deer	3.97	2.98
When deciding about deer management in Minnesota, the MNDNR is open and honest about the things they do and say	4.13	3.09
The MNDNR can be trusted to make decisions about deer management that are good for the resource	4.07	3.05
The MNDNR will make decisions about deer management in a way that is fair	4.19	3.13
The MNDNR has deer managers and biologists that are good at their jobs	4.44	3.29
The MNDNR listens to deer hunters' concerns	3.87	3.29
I trust the MNDNR to make good deer management decisions regarding deer management issues	4.08	3.05
I trust MNDNR to follow the best available science in managing deer	4.28	3.19
TRUST (AVERAGE)	**4.13**	**3.09**

[1]Mean responses originally measured on a scale where 1 = Strongly disagree, 2 = Moderately disagree, 3 = Slightly disagree, 4 = Neither, 5 = Slightly agree, 6 = Moderately agree, 7 = Strongly agree; [2]Values for 5pt scale are a linear transformation of the 7pt scale: 5PT = (7PT-1)*(4/6)+1

Performance metric assessment: This metric is an appropriate measure of the goal but can be a very coarse measure of DNR deer management success because factors affecting public trust, including social values, demographic variables, and interactions with state agencies over a person's lifetime may be difficult for DNR to effectively change on a short timeframe. Regardless, it's likely that public trust and satisfaction with deer management is closely related to hunter success rates and deer numbers, based on previous studies of deer hunter attitudes. During the period of record deer harvests in Minnesota in the early 2000s, average trust among deer hunters was approximately 3.5, so this is an achievable target. It is important to note that there are factors that affect deer populations and subsequent deer harvest that are outside of DNR control. However, striving for an above mid-point neutrality metric is both fair and challenging. Although other Midwest states have limited data on public trust, especially specifically related to deer management, recent estimates of general trust in the state Fish and Wildlife Agency from Wisconsin (3.05; converted from a 4-point to a 5-point scale) and North Dakota (3.61) reported comparable scores to Minnesota. To increase public trust in DNR deer management, resources should be dedicated to improving information available to the public about DNR decision-making. The lowest rank trust metrics in the 2021 survey were related to DNR decision-making. Currently, surveys on public attitudes related to deer management are conducted on an as-needed basis and have occurred fairly regularly over the five FYs, but in order to adequately measure this metric and assess effectiveness

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of changes towards trust, annual surveys should include a standardized set of questions addressing this metric.

Performance metrics B.2.: Public land access for deer-related recreation

- ***Description:*** *Annual change in Wildlife Management Area (WMA) acreage*
- ***Target:*** *6,000 additional acres per year*
- ***Classification:*** **NOT MET, for 4 of 5 FY**

Wildlife Management Areas (WMA) are public lands administered by the DNR and provide important access to areas for outdoor recreation, with a focus on hunting and fishing access. The target of 6,000 acres added per year was achieved in FY20 (Figure 1), whereas acres acquired in FY21 to FY24 were markedly lower. The most common type of land acquired for WMAs was classified as prairie (82%), followed by forest (15%), and finally land within the larger metro area (3%).

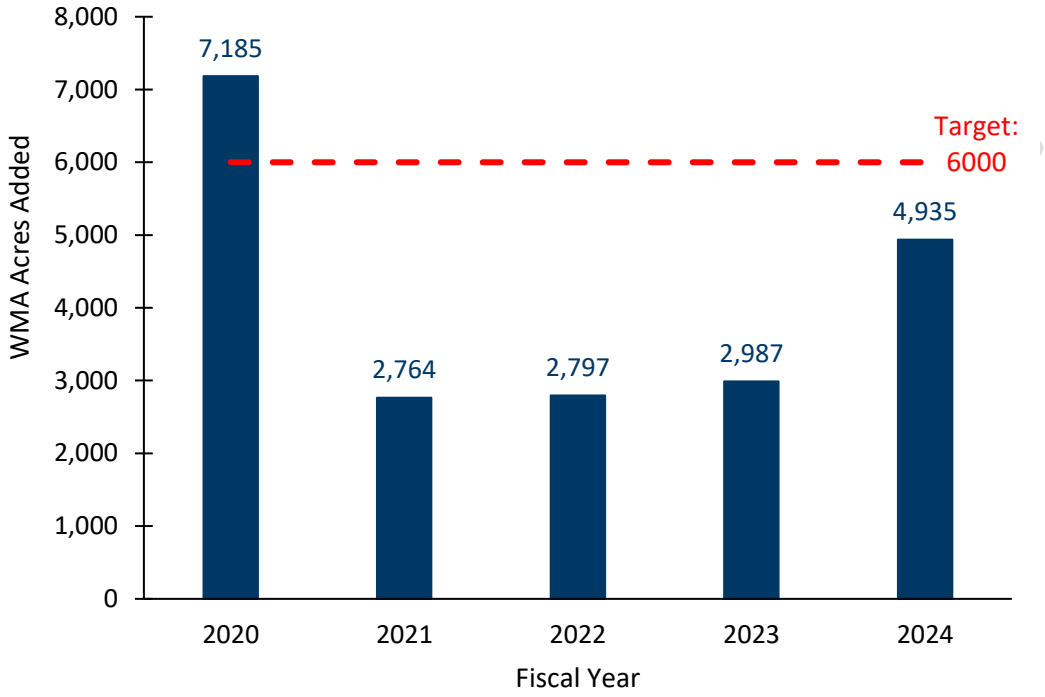

Figure 1: Annual WMA Acres added per fiscal year. The red dotted line represents the target of 6,000 acres added.

Performance metric assessment: The target is clearly achievable as it was met in FY20 and in six of the previous 10 fiscal years (FY10 through FY19) prior to plan implementation (the 10-year average for acreage acquired was 5,837 acres). One likely explanation for the failure to meet the target in FY21 through FY24 is an increase in agricultural land prices in recent years. Many of DNR acquisition attempts are for marginal agricultural lands and asking prices for these lands tend to be greater than appraisal values. This leads to more rejections on land acquisition offers (which are based on appraisals). This problem also affects partners that acquire WMA lands. Furthermore, there is resistance from some Minnesota counties to convert private ownership to public land. Some areas resist the sale of private land due to the reduction in tax revenue; however, the DNR does compensate for this loss through the Payment In Lieu of Taxes program (PILT). The DNR may need to focus acquisition efforts on areas where

land prices are not as high, such as areas farther away from population centers. However, there is a trade-off with accessibility for WMAs further away from urban and suburban areas and recent internal policies have placed greater priorities to areas closer to urban areas. A smaller acre parcel in closer proximity to urban and suburban areas may receive more use from hunters than a larger acre parcel in a more rural setting. The majority of respondents in a 2015 study of WMA users felt that the number of WMAs should be increased (86%), that WMAs are too crowded (62%) and not enough WMAs are located near them (61%). The DNR's Duck and Pheasant action plans both include strategies to place higher priority to WMA acquisitions for parcels located within 30 miles of a population center of at least 15,000 to 20,000 people to provide "close to home" opportunities. These two plans also have performance measures regarding WMA acquisitions targeted in areas that would provide duck and upland grassland bird hunting opportunities, which in some cases may affect the ability to meet targets set forth in the deer plan, especially if those areas have higher land values than others. A diverse approach to land acquisition is recommended to provide Minnesota hunters with a variety of opportunities in different settings and habitat types, and in some years, the target of 6,000 acres may not be appropriate or achieve the best results to benefit hunters.

Performance metrics B.3.: Private land access for public hunting

- ***Description:*** *Amount of private land acres* enrolled in the Walk-in Access (WIA) program
- ***Target:*** *Increase WIA enrollment to 35,000 acres*
- ***Classification:*** **Within 7% of target**

In FY20, 28,000 acres were enrolled in Minnesota's WIA program. To reach 35,000 acres by FY29, an additional 7,000 acres need to be enrolled, or an average gain of 777 acres per year. This annual projected target is shown as a red dashed line in Figure 2, along with the actual total acres enrolled in WIA per year. A total of 29,003 acres were enrolled in FY24 which is within seven percent of the annual projected target.

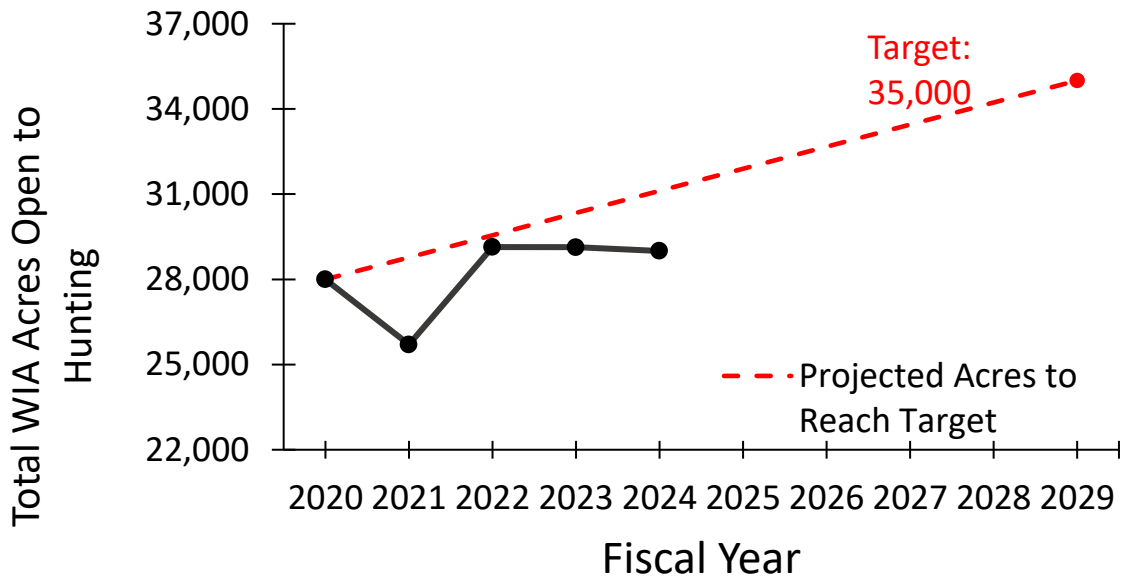

Figure 2: Acres enrolled in Walk-In Access Program by fiscal year (solid black line). The red dashed line is the projected target to meet the goal of 35,000 acres by FY29.

Performance metric assessment: There are many factors that have influenced enrolling WIA acres from FY20 to FY24, including the COVID-19 pandemic and the constantly changing agricultural economy. The number of acres enrolled in WIA is a moving target. People enroll acres for the fall, but when landowners sell a parcel, CRP contracts expire, or similar issues arise, the landowners will request to remove a small number of parcels from the program each year. Historically the DNR funded the program through a grant from the Natural Resources Conservation Service (NRCS). The DNR is currently looking at additional funding strategies for continuing and possibly expanding the program in the future. Since its beginning in 2011, the DNR focused this program in the farmland region of the state where public lands are often limited. The DNR has been and will continue to look for additional parts of the state where hunting access can be limited.

Goal C: POPULATION MANAGEMENT, MONITORING AND RESEARCH: Manage deer adaptively, considering both biological and social information in decision-making

Four objectives were identified under Goal C in the management plan:

- Use biological and social data to inform deer population management
- Establish annual hunting seasons to meet deer population and management goals
- Monitor, evaluate and adjust management necessary to meet deer population goals
- Manage deer populations in primary moose range consistent with the Minnesota Moose Research and Management Plan

Significant achievements toward this goal include the revision of all DPA population goals statewide from 2019 to 2023; five research projects directly related to deer population monitoring; and the annual completion of deer season bag limit designations based on biological and social data. There are two performance metrics related to this goal (permit areas in goal range on page 19 and statewide deer harvest on page 21) and both are currently not being met. Barriers to meeting these targets include the effects of severe winters in northern Minnesota during FY19, FY22 and FY23, difficulties in maintaining and preserving the quantity and quality of wintering deer habitat, hunter selectivity, and declining hunter participation. Recommended management priorities over the next five years include evaluating improvements to deer season structure and alternative management regulations, the improvement of deer population model performance including evaluation of an integrated population model and revision of population vital rates for the northern forested region, and the development of alternative monitoring techniques and metrics for deer management.

Achievements towards Goal C objectives FY20 to FY24:

- Deer population goals were revised statewide from 2019 to 2023; public engagement in the goal setting process was revised to be more inclusive and transparent to the public; and the new process included consideration of goals of greater than 50% change in deer populations based on deer plan recommendations.
- Deer season bag limits in CWD areas adapted to better align with public concerns about excessive deer population reductions and as the number of deer permit areas classified as CWD management zones expanded, including areas in northern Minnesota with lower deer densities.
- Early antlerless season bag limit and permitting changes were made to simplify regulations to address public concerns.

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- Deer populations in primary moose range are estimated well below density targets set in the Minnesota Moose Management and Research Plan, and population goals were revised to keep populations stable relative to 2020 levels.
- A project was initiated to develop a new ELS. A vendor (PayIT Outdoors) was selected for the new system via a bidding process. Policy initiatives were developed to support legislative changes necessary to accommodate technological advances anticipated with the new system and product development, configuration and testing is ongoing. The anticipated 'go-live' date for the new ELS system is March 2025. Mandatory harvest registration will continue under the new ELS[†].
- Research projects associated with Goal C:
    - Citizen-science monitoring of deer populations via the Hunter Observation Survey[†].
    - Fawn survival and recruitment in the farmland region[†].
    - Infrared distance sampling to monitor deer populations in the farmland region[†].
    - Deer habitat use in two contrasting deer wintering areas in the northern forest region[†].
    - Monitoring deer populations in the northern forest region using camera surveys[†].
    - Evaluation of different monitoring programs and tradeoffs to inform an integrated population model (IPM) for deer in Minnesota.
    - CWD monitoring and research[†] – see more information in the Healthy Deer section.

Goal C priority areas FY25 to FY29 related to population management, monitoring, and research:

i) **Update vital rates for deer populations in northern Minnesota, including cause-specific mortality rates of adult and juvenile deer, and age-specific fecundity rates.** Effective population management relies on accurate vital rate estimates, and it is important to update these vital rates as habitat, weather, predator communities, and management strategies change over time. This undertaking will help to understand why deer populations have failed to increase in northern Minnesota in recent years under conservative harvest regimes and what actions might be needed to meet deer population goals.

ii) **Consider alternative management regulations intended to increase removal of antlerless deer.** Although deer populations in northern Minnesota are more likely to be under goal, there are areas of the state where deer populations are above goal, and current management strategies are not effectively lowering deer numbers. Alternative strategies will be considered in the future that may be more effective with population management.

iii) **Explore the effectiveness of new techniques on monitoring deer populations**. Estimating the size and demographics of any wildlife population is a difficult task, especially given changing habitats, weather, predator communities, and hunter effort, selectively, and participation. Multiple new techniques are being tested to help accurately measure deer populations in different habitat types found throughout Minnesota, including infrared distance sampling and remote camera techniques. In addition, the Enforcement Division is anticipated to purchase a new aircraft with increased monitoring capabilities.

    a. **Consider how the new ELS system can be used to monitor additional deer population metrics**. Minnesota's current licensing system has a limited capability to collect information from the public on harvested deer. The new ELS system anticipated in March 2025 presents new opportunities to interact with the public and may provide the means to collect more detailed data on harvested deer, which could be useful to assess deer age at harvest among other factors. For example, some states such as Missouri and Iowa ask questions about antlered deer during the harvest registration process (regarding antler characteristics) which can be used to estimate the age category of the

[†] Achievement identified as or closely related to a near-term strategy for this goal in the deer plan.

deer. These features are not likely to be available in the first phase of the ELS release but should be assessed for future updates.

iv) **Explore feasibility and efficacy of an integrated deer population model**. Statistical population models are used by many state wildlife agencies to monitor deer populations. These models incorporate information collected from individual animals as well as at the population-level, including harvest data and various deer vital rates such as annual rates of births and deaths to estimate deer populations and trends. Integrated population models are one type of model that can incorporate multiple streams of data and may improve monitoring of Minnesota's deer populations, but require consistent and intensive monitoring of deer populations for optimal performance.

v) **Identify new ways to increase meat processor participation in the Venison Donation Program.** This program allows hunters to donate harvested deer to a program that provide food to people in need while helping reduce local deer populations. However, meat processor participation has declined over the last decade which reduces opportunities for those hunters who are willing to harvest more deer but have no need for additional venison.

Performance metric C.1.: Deer permit areas (DPAs) in goal range

- ***Description:*** *Percentage of deer permit areas in goal range*
- ***Target:*** *Greater than or equal to 75%*
- ***Classification:*** **NOT MET**

The DNR sets deer population goals for each DPA in a public input process that occurs every 10 years. Population goals are articulated as a desired change (or lack of change) in the trajectory of the deer population as well as the magnitude of change. Whether a deer population is at goal depends on the current population compared to the population when the goal was set for that DPA. Each year, staff determine if a deer population is at, above, or below the population goal by using data on deer harvest, hunter numbers, success rates, estimates from the deer population model, public input received throughout the year, and expert knowledge of local biologists. Deer population goals were recently updated throughout the state over a four-year process from 2019 to 2023. As population goals are updated, deer populations that were previously at or above population goals may now be below or above population goals. A target of greater than or equal to 75% of DPAs in the goal range was set by the deer plan. That target has not been reached to date (Figure 3A). Approximately 52-68% of DPAs were classified as either at or above population goals, compared to 32-48% of DPAs falling under deer population goals in FY20 through FY24 (Figure 3B).

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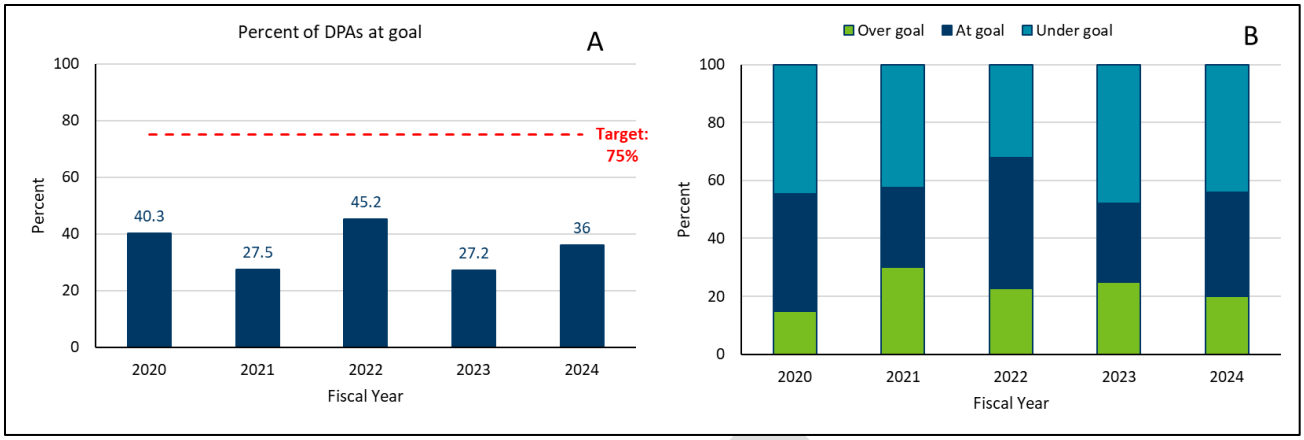

Figure 3: Percentage of DPAs in Minnesota that are in population goal range (A) and over or under population goals (B), FY20 to FY24.

Performance metric assessment: The state's ability to meet deer population goals is a product of 1) the effectiveness of deer hunting regulations to move populations towards goals, 2) habitat management that affects deer survival and reproduction rates, 3) winter severity and other weather factors that influence deer survival and reproduction, 4) predation, disease, and other mortality factors, and 5) the performance of the population model and other metrics used to project deer population levels and assessment toward goals. Some of these factors are within DNR control and others are not. The continued improvement and assessment of the deer population model as well as alternative monitoring techniques including distance sampling and camera surveys, and new research to update deer vital rates for the northern forest region is recommended to improve progress (e.g., to better understand factors influencing deer populations in the northern forest). Barriers to reducing deer populations that are above goals include the willingness of hunters to take antlerless deer, declining hunter participation, and limited avenues for hunters to donate excess venison (e.g., the venison donation program). Barriers to increasing deer populations that are under goals include the increased frequency of heavy snowfall events and severe winter conditions during the 2010s in some areas of Minnesota and constraints with winter deer habitat management. Despite the warming effects of climate change, seasonal heavy snowfall events (defined as calendar days with at least four inches of snow) have been increasing in frequency over time according to MN DNR climate station data. Predator management is a topic frequently broached by the public to bring deer populations towards goal in the northern forested region. Although wolf seasons are currently prohibited by federal law, opening a wolf season if it were to become legal may or may not help move deer populations towards established goals (i.e., remove enough wolves to impact deer survival) and would need to consider management objectives for multiple species. If the gray wolf is removed from the endangered species list and placed back under state control, the DNR would utilize the path set forward in the Wolf Management Plan to determine if a wolf season should be opened. An assessment of alternative regulations that could increase antlerless deer harvest in areas above population goals, and continued research on deer habitat needs in the northern forest region as well as an updated research project updating deer vital rates in the northern forest region to assess proximate and ultimate sources of mortality is recommended for next steps to improve population management.

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Performance metric C.2.: Deer harvest

- ***Description:*** *Number of deer harvested by hunters*
- ***Target:*** *200,000 deer per year*
- ***Classification:*** **NOT MET**

A target of 200,000 total deer harvested per year was set in the deer plan as a secondary check on performance in meeting population goals. The DNR does not set harvest regulations to meet a specific level of statewide harvest, but rather sets bag limits based on the status of deer populations relative to goals at the DPA scale. Harvest is an outcome of management across multiple years and may fluctuate annually due to factors such as winter severity, hunting season conditions and hunter pressure. The annual target was based on harvest observed when the statewide population was at a desired level (according to the Deer Management Plan Advisory Committee) and harvest was regulated to generally maintain a stable population. Since the 2019 hunting season (FY20), the statewide deer harvest has remained under the 200,000 target, although the target was nearly achieved in FY21 when the deer harvest exceeded 197,000 (within 1.3% of the target; Figure 4). Harvest levels below 200,000 are consistent with the majority of DPAs during the time period being at or below population goals (metric C.1.) and generally conservative regulations to increase deer populations where desired.

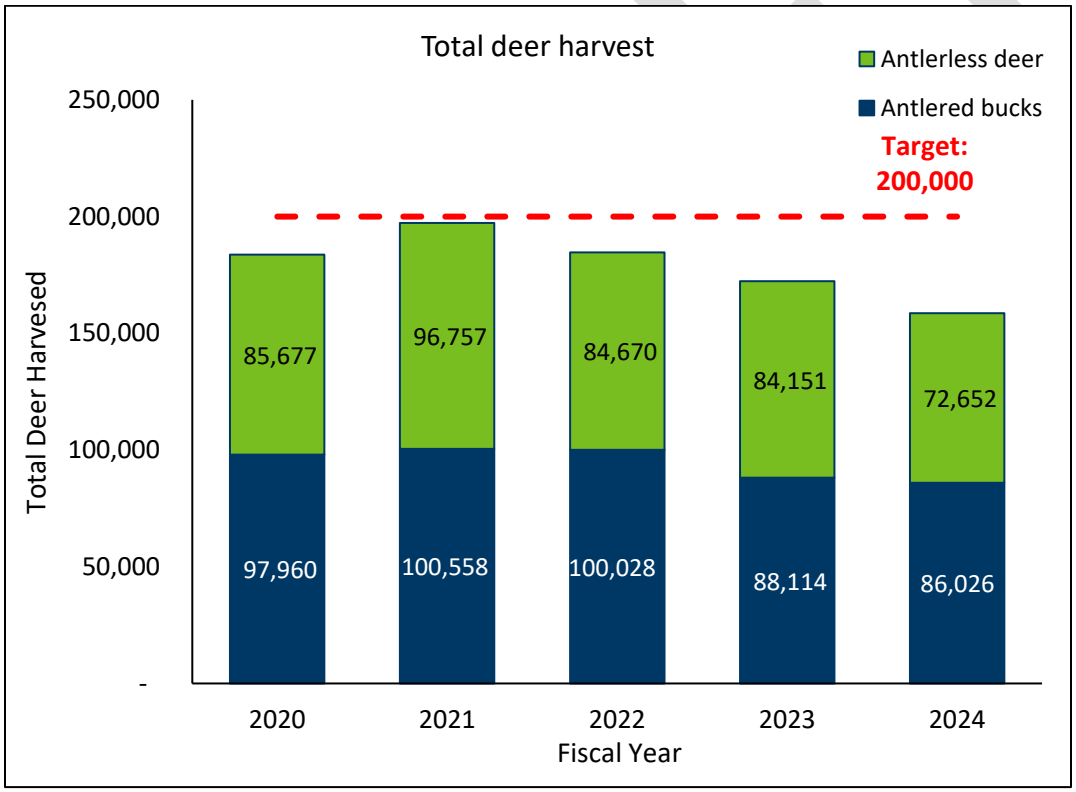

Figure 4: Total deer harvested in Minnesota, FY20 to FY24. Note FY20 represents Fall 2019, FY21 represents Fall 2020, etc.

Performance metric assessment: The appropriateness of this metric and target was specifically addressed in the deer plan (page 10). It is intended to serve as a secondary check on deer management, whereas management towards population goals set in each deer permit area should primarily guide deer management. Although harvest fell below the target of 200,000 each year, it was very nearly achieved in 2020 with only 2,700 deer (1.3%) below the target. As identified in the plan, when the total

harvest falls below 200,000, conservative regulations should be considered. Conservative bag limits have been implemented consistently in northern Minnesota, where most of the deer permit areas under population goals are located, for several years. Over the five years of consideration, the most frequent deer bag limit designation implemented in the northeast region was an antlerless permit lottery (a one-deer limit for hunters that must be an antlered buck unless selected in the antlerless lottery). Although it is important to report on the metrics set forth in the original plan, hunter success (the percent of hunters taking at least one deer) is likely a better metric to assess deer population performance. The harvest target of 200,000 was believed to represent a timeframe when hunter satisfaction was generally high in the early and late 2000s, thus the hunter success rate when harvest was just below the peak levels when Minnesota was aggressively working to reduce deer populations in the mid-2000s may be an appropriate target (for example, success = 39% in 2006, the second highest deer harvest recorded in Minnesota; see table 4 for success rates for each FY). Recognizing changes in hunter numbers and season participation, harvest success rates could be considered an alternative metric. An assessment of alternative regulations that could increase antlerless deer harvest in areas above population goals, and continued research on deer habitat needs in the northern forest region as well as an updated research project updating deer vital rates in the northern forest region to assess proximate and ultimate sources of mortality are recommended as next steps to improve population management.

Table 4. Harvest success rates for each FY (percent of total deer hunters taking at least one deer).

Fiscal Year	Harvest success
FY20	35.9%
FY21	35.1%
FY22	33.8%
FY23	32.0%
FY24	32.0%

Goal D: HEALTHY DEER: Support deer herd health by monitoring and addressing disease

Three objectives were identified under Goal D in the management plan:

- Minimize the risk of new introductions of chronic wasting disease (CWD) to wild deer and strive to eliminate CWD in Minnesota's wild deer population
- Minimize the introduction, spread, and impact of other diseases that affect deer in Minnesota
- Work with the statewide deer advisory committee to assess public support for a prohibition on recreational deer, elk, and moose feeding statewide

The deer plan specifically points towards CWD as a priority management issue, as stated on page ii, "Concerns about the potential impact of chronic wasting disease (CWD) on the health of the wild deer population received substantial attention by the committee (DMPAC) and stakeholders commenting on the plan". Over the first five fiscal years of this plan much attention has been devoted to CWD management, surveillance, and prevention in the wild deer population. Unfortunately, the footprint of CWD in Minnesota has changed drastically since the completion of this plan and has expanded into the northern forested region, albeit at very low prevalence. Successes towards the Healthy Deer goal have included assuming sole management authority over captive white-tailed deer regulation, the collection

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of over 70,000 CWD samples from hunter harvested deer, continued absence of detectable bovine tuberculosis in wild cervids, and DNR involvement in at least 11 major research projects related to deer health. Obstacles related to this goal include staff capacity and fatigue related to CWD work, funding demands related to the deer dumpster program especially and CWD work in general, public fatigue and support for CWD management (especially localized culling work), and the lack of a USDA-validated "live" test or field test for CWD. Priority focus areas over the next five years include continued participation in deer health research including collaborations with academic institutions, regional collaborations with state, federal and tribal biologists and agencies, and continued adaptive management of disease incorporating the best available science.

Achievements towards Goal D objectives FY20 to FY24:

- Sampling for CWD[†].[†]: 70,320 CWD samples collected from Minnesota cervids from FY20 to FY24 (18,571 in FY20, 8,348 in FY21, 15,542 in FY22, 13,638 in FY23, and 14,221 in FY24). These include every sample collected state-wide regardless of method, including hunter harvested deer, agency culled deer, and opportunistic samples. Sampling efforts of hunter harvested deer resulted in desired confidence of detecting the disease at low levels (see performance metric on page 25).
- An update to the 2011 MN DNR CWD Response Plan was completed in July 2019.
- In July 2022, the legislature granted the DNR co-management authority over captive white-tailed deer facilities in conjunction with the Board of Animal Health, and subsequently during the 2023 legislative session, DNR was granted sole management authority over captive deer. Since that time, the DNR has established and hired Farmed Deer and Captive Species coordinator (Fish and Wildlife Division) and Animal Health Coordinator (Enforcement Division) positions to manage the program. During FY23, DNR staff completed 116 inspections of white-tailed deer farms in to ensure compliance[†].
- Improved reporting and coordination with BAH and internal staff on escaped captive cervids.
- Continued surveillance for bovine tuberculosis in cervids: 99 wild elk were tested for bovine tuberculosis and all samples were not detected.
- Identified the first detection of epizootic hemorrhagic disease (EHD) in white-tailed deer in central and southeastern Minnesota in 2019. While EHD is common in the Midwest and outbreaks can result in high local mortality in deer, the 2019 outbreak in Minnesota was mild (<200 deer likely impacted).
- From FY20 to FY24, the deer feeding and attractant ban was revised on six occasions to account for new detections of CWD in wild or farmed deer[†].
- The DNR was directed by the legislature in 2019 to undertake an "Adopt-a-dumpster" program similar to Wisconsin's program. This dumpster program was first implemented in fall 2019 and has removed approximately 250 tons of deer waste annually to lined landfill in high-risk CWD areas to reduce potential disease spread and environmental persistence.
- Improved internal tracking of wildlife morbidity and mortality through a web-based application.
- Provided technical assistance to staff and the public regarding observation of sick deer through trail camera photos, direct observation, and field dressing.
- Coordinated with Minnesota state licensed wildlife rehabilitators to reduce risks associated with deer fawn rehabilitation and CWD spread.
- Increased opportunities for Minnesota deer hunters to get deer tested for CWD including the expansion of the 'Partner Sampling Program' (a program where DNR compensates taxidermists and

[†] Achievement identified as or closely related to a near-term strategy for this goal in the deer plan.

meat processors to collect samples) from localized areas where CWD has been detected to statewide coverage. This program has yielded >11,000 samples and detected 27 CWD-positive deer since 2019. Additionally, a mail-in sampling kit was introduced in fall 2022 for any deer hunter statewide to use to collect their own CWD samples and mail to DNR staff for testing. During fall 2023, more than 6,200 kits were distributed to hunters and 797 correct tissue samples were returned for CWD testing, which included 3 CWD-positive detections.

- Research projects associated with Goal D:
    - SARS-COV2 exposure in deer and furbearers (collaboration with USGS, USDA, and University of Minnesota).
    - Immunochemistry and CWD risk with USGS, deer dispersal and risk of CWD spread (collaboration with the University of Montana, WI DNR, and USGS).
    - Fall movement ecology of male deer in southeast MN and risks to CWD spread.
    - Effectiveness of culling as a management tool using novel genetics and modeling (collaboration with UW-Milwaukee, North Dakota State University, and University of St. Thomas).
    - PFAS exposure in deer and waterfowl (collaboration with the Minnesota Department of Health, Minnesota Pollution Control Agency, Three-rivers Park District, and Camp Ripley Military Installation).
    - Prion persistence at deer scrapes (collaboration with Mississippi State University and MNPRO).
    - Improving CWD surveillance tools (collaboration with Cornell University, SOP4CWD).
    - Assessing neonicotinoid levels in hunter-harvested deer spleens.
    - Human dimensions survey of deer hunters regarding CWD management (collaboration with University of Minnesota).
    - Prospective simulation assessments of alternative harvest strategies to mitigate and control CWD invasion and spread (Collaboration with the CWD Alliance).
    - Building a web application for managers to measure impacts of CWD control strategies (Collaboration with USDA APHIS Wildlife Services).

Goal D priority areas FY25 to FY29 related to healthy deer:

i) **Continue to evaluate the effectiveness of strategies to manage CWD**, including collaborations with other state agencies on successes and lessons learned. As with all management activities, it is important to determine if CWD management efforts are producing the desired outcome to meet objectives. Adaptive management of CWD is complicated by the inherent uncertainties and complications of monitoring wildlife, as well as the extended timeframe from which outcomes are evident, and general lack of controls to measure effectiveness. Despite these difficulties, collaborations with other state wildlife agencies allow the leveraging of different management strategies across states to evaluate effectiveness.

ii) **Continue surveillance of EHD or any other emerging disease threats in deer.** Surveillance of any disease that may adversely impact deer populations is a critical step in monitoring and maintaining a healthy deer herd.

iii) **Improve public-facing content related to culling of localized deer populations as a tool to manage CWD**. Targeted culling is an important tool in managing the spread of CWD, but its purpose, scale and spatial extent, and impacts are often not effectively communicated to the public. Improving messaging of culling efforts will help alleviate misconceptions and possibly increase landowner participation in the program.

iv) **Assess ongoing needs for public engagement and/or meetings in areas of new and existing CWD detections.** One significant hurdle in managing CWD is public misunderstanding of CWD

coupled with mistrust in management strategies. Public engagement at meetings is an effective way to work with the public, improve shared understanding, and build relationships.

v) Under sole authority granted by the Minnesota Legislature, **oversee regulation of farmed white-tailed deer facilities in Minnesota to ensure health of the state's wild deer population**, including the implementation of regulations requiring separation of farmed deer from contact with wild deer.

vi) **Consider new and emerging research on CWD to inform potential policy, rule, and legislative changes to the farmed white-tailed deer industry.**

Performance metrics D.1.: Deer disease surveillance success

- ***Description:*** *Percent of target samples attained per year*
- ***Target:*** *100%*
- ***Classification:*** **MET**

Internal surveillance goals ensure sufficient samples are collected to attain confidence in CWD detection for new areas and monitor prevalence fluctuations in persistent areas. Samples were collected from eight unique areas of the state in FY23 (hunting season 2022), and while sampling goals fell short in a few areas, across the state 11,075 hunter harvested samples were collected, resulting in 104% return on surveillance efforts (Table 4). Average percent target samples attained for FY22 was 124%, and for FY21 was 101% (Table 5). During FY20 over seventeen thousand samples were collected, but goals were not established in most areas as testing was mandatory for all deer greater than 1 year of age in management zones, regardless of season.

Table 5: Disease surveillance success for FY24, based on sampling region.

FY2024 Sampling Region DPAs	Goal	All hunter harvested samples	Percent target samples attained
101, 201, 260, 263, 268	600	621	104%
684	450	1004	223%
110, 169, 197, 259, 287	900	1016	113%
661*	450	187	42%
256, 257, 262, 265	900	822	91%
604	450	981	218%
679	450	689	153%
605	450	854	190%
255, 233, 293, 341, 342	900	1150	128%
643, 644, 645, 646, 647, 648, 649, 655	2700	4253	158%
Total	**8250**	**11577**	**140%**

*3-year goal, reset in 2023

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Table 6: Average percent of target samples attained from FY20 to FY24. Most surveillance areas in FY20 did not have goals established as testing was mandatory for all deer greater than 1 year of age in management zones, regardless of season.

Fiscal Year	Hunter harvested samples collected in disease surveillance areas	Average percent target samples attained
2020	17,717	NA
2021	6,372	101%
2022	14,300	124%
2023	11,075	104%
2024	11,577	140%

Performance metric assessment: This is an appropriate metric and target for the Healthy Deer Goal, and the target has been successfully achieved each fiscal year. Attaining this target should continue to be a DNR priority as it is imperative to make informed decisions about deer health and management. However, depending on staff capacity and/or funding, there may be a need to adjust where surveillance needs are focused. One example of potential adjustment would be to focus on sampling more from peripheral areas surrounding areas of higher prevalence, to ensure that areas of spread outside of known disease areas are detected. Further, a more appropriate metric or target may be to achieve a level of confidence in the ability to detect the disease at a certain level. For example, the wildlife health program typically aims to achieve a 99% confidence in detecting CWD if it is present at a 1% prevalence rate in the population. It is possible to fall below the sample target in a particular area but still achieve a relatively high confidence of detecting the disease at a low prevalence rate. Risks to the ability to continue to meet sample targets include potential decrease in hunter compliance and participation in sampling programs, lack of funding to implement sampling schemes, issues related to achieving targets in areas of lower deer and hunter densities, and logistical staffing issues for sample collection. More enforcement and public outreach would be a way to mitigate against the potential drop in hunter compliance over time. Proper information and outreach to the public and the Legislature will be important to ensuring sufficient funding for the future and needs of the monitoring program.

Performance metrics D.2.: Size of disease-positive core areas

- ***Description:*** *Area of zones designated as disease core areas for deer (e.g., CWD core areas with detections of CWD-positive deer in the free-ranging herd).*
- ***Target:*** *0 square miles*
- ***Classification:*** **NOT MET**

CWD positive sections (1 square mile sections as defined on Township/Range/Section maps) in core areas are defined as either containing the location of a CWD positive deer or those being in close geographic proximity to another CWD positive section. Close geographic proximity refers to any CWD positive section within two sections of another CWD positive section in a calendar year. CWD positive sections that meet this criterion are included in CWD core areas; CWD positive sections that do not meet these criteria are not considered a CWD core area. CWD Core – 1st mile sections are calculated as those sections on every side of a CWD positive section in a core area. Table 6 lists the square miles of CWD positive sections in core areas, sections in the 1st square mile of core areas, and the total for FY20 through FY24.

DRAFT

Table 7: CWD Core areas by square mileage, FY20-FY24.

Fiscal Year	CWD Positive Sections in Core Areas	Sections in 1st mile of CWD Core Areas	Core Areas Square Mileage
2020	24	85	109
2021	20	87	107
2022	19	90	109
2023	22	99	121
2024	35	160	195

Performance metric assessment: Prions, the infectious agent that causes CWD, can persist in the environment for a significant period, likely several years. Deer infected with CWD can also shed prions for multiple years until they inevitably succumb to the fatal disease. Because of these reasons, among others, infection rates and the disease distribution of CWD continues to grow across North America. Other states where CWD has been detected continue to see its expansion, and the same is true for Minnesota. It is therefore very unlikely Minnesota will reach the target goal of 0 square miles, akin to a goal of eradicating CWD, and this target should be reevaluated. A fundamental step in supporting a healthy deer herd is to monitor the spatial extent of infectious diseases and limit their potential spread using best management practices. Defining and tracking core disease zones on Minnesota's landscape over time allows the DNR to track disease spread and focus management activities for increased effectiveness. The scientific community is now well aware that eradication of CWD, once detected, is practically impossible. A more appropriate and attainable target for CWD management is to have a net zero gain or a minimal (less than 5%) annual increase in the acreage of CWD core areas each year, meaning zero spread of the disease outside of known areas from one year to the next. It's important to set targets that are reasonably attainable so that success towards targets can be accurately measured and management strategies identified that are working (or not working) to achieve the goals. A target of zero core areas of disease would continue to be an appropriate target for other diseases related to deer including bovine tuberculosis (bTB) and EHD, among others. Minnesota successfully eradicated bTB in wild deer in the northern part of the state and the core area remains 0 square miles. Barriers to meeting either the existing or proposed targets include persistence of infectious prions in the environment, no existing cure or treatment for the disease and lack of feasible methods to denature prions in the environment, potential loss of hunter and landowner support and participation in CWD management strategies to reduce disease prevalence and prevent spread into new areas, and any reduction in funding to continue CWD management activities. Proper information and outreach to the public (including targeted outreach at local town and county meetings, hunting groups, etc.) and the legislature will be important to ensuring sufficient funding for the future and needs of the monitoring program. Support from hunters, landowners, and the state legislature is imperative to attempt to slow the spread of CWD on the landscape.

Goal E: HEALTHY HABITAT: Maintain natural wildlife habitat by protecting, enhancing, and restoring habitat and by managing for an appropriate number of deer

Three objectives were identified under Goal E in the management plan:

- Increase the amount and quality of habitat in farmland regions
- Increase the quality, and amount where needed, of habitat in the forested regions

DRAFT

- Increase access to private land for deer population management and provide direction for landowners seeking conservation programs and technical advice to improve quality deer habitat on private land

The Covid-19 pandemic impacted the ability of staff to conduct habitat management activities for a substantial portion of the timeframe under consideration and the associated hiring freeze exacerbated capacity issues. Management for deer habitat on School Trust land, which constitutes a large portion of state-administered lands in northern Minnesota, has also become more complicated, with an enhanced focus placed on long-term economic returns. There also is a potential for loss of School Trust Land for deer habitat as it may generate greater revenue in the real estate market than timber production. Habitat enhancement successes during the evaluation timeframe include over 80,000 acres of habitat enhancement on wildlife management areas and over 128,000 acres of prescribed burns completed. There was one performance metric related to healthy deer habitat in the plan (annual deer habitat enhancement E.1.; see page 30) and it was not met during the timeframe considered. Areas for improvement include exploring alternative funding generation on School Trust Lands so that deer habitat can be preserved, and an increase in efforts to prioritize, improve and maintain quality deer wintering habitat in northern Minnesota. The recently completed Sustainable Timber Harvest Initiative midpoint review also highlighted the need for a continuous improvement plan to address implementation issues related to timber management on wildlife management areas.

Achievements towards Goal E objectives FY20 to FY24:

- 20,668 acres of land dedicated to wildlife management areas acquired by DNR from FY20 through FY24
- 51,786 acres of prairie habitat enhancement and restoration completed on wildlife management areas
- 48,057 acres of forest habitat enhancement and restoration completed on wildlife management areas
- 15,664 acres of invasive species work on wildlife management areas completed
- 58,715 acres of prescribed burns in prairie habitats and 28,220 acres of prescribed burns in forest/woodland habitats
- 7,738 acres of food plot development on wildlife management areas completed
- 119,997 acres of wildlife management areas were enrolled in Cooperative Farming Agreements. Number of acres enrolled ranged from 18,203 in FY20 to 26,694 in FY22.
- 39,434 acres of wildlife management areas were enrolled in Cooperative Grazing Agreements. Number of acres enrolled each year ranged from 5,023 in FY21 to 11,154 in FY23.
- The Conservation Partner Legacy Grant Program awarded $5,401,896 in competitive matching grants for 57 projects to fund habitat management activities that benefit deer[†].
- Two big game program specialists hired in the big game program with geographic focus on northern or southern MN, part of these positions will be to promote available information and tools for private landowners on deer habitat and population management.
- Public comment period completed in FY21 for the Northern Minnesota and Ontario Peatlands Section Forest Resource Management Plan (SFRMP), in FY23 for the Northern Superior Uplands SFRMP, and in FY24 for the Aspen Parklands, the Northern Minnesota Drift and Lake Plans SFRMP, the Western Superior Uplands SFRMP, the Minnesota and Northeast Iowa Morainal SFRMP and the Paleozoic Plateau SFRMP[†].
- Maintained certifications with the Forest Stewardship Council (well managed natural forest certification) and the Sustainable Forest Initiative[†].

[†] Achievement identified as or closely related to a near-term strategy for this goal in the deer plan.

DRAFT

- Completed the Whitewater WMA and the Red Lake WMA master plan revisions in FY23†.
- Completed the Mille Lacs WMA and Lac Qui Parle WMA master plans revisions in FY24†.

Goal E Priority areas FY25 to FY29 related to Healthy habitat:

i) **Support efforts to increase the quantity and quality of winter habitat in northern forests.** Deer in forested regions of northern Minnesota are particularly vulnerable to winter conditions and rely on quality habitat to survive until spring. Mature forest stands provide cover from the elements, but also important are stands of mixed species and age classes which provide forage and predator protection.

   a. **Consider alternative approaches to School Trust Land revenue generation to justify deer habitat management and limit the sale or conversion of School Trust Lands with high-value wildlife habitat.**

   b. **Support DNR recommendation in the midpoint assessment of the Sustainable Timber Harvest Initiative to develop a continuous improvement plan to alleviate implementation issues.**

ii) **Improve communications with the public regarding invasive species effects on deer habitat, particularly buckthorn.** Invasive species including buckthorn, autumn olive, smooth brome grass, and multiflora rose, among others, pose threats to deer habitat quality but are rarely mentioned when discussing deer management. Given most of the deer habitat in Minnesota exists on private land, outreach to landowners regarding invasive species management specifically to benefit deer and other wildlife populations would improve public knowledge of this important topic. Buckthorn, in particular, is widespread and particularly hard to control invasive species that may be the greatest invasive species threat to deer habitat. Public outreach campaigns similar to those targeted to aquatic invasive species (Clean, Drain, Dispose) should be explored.

iii) **Undertake efforts to better track and report on habitat work conducted by DNR on public land not including WMAs**. In addition to habitat work conducted on WMAs that benefit deer, there is much work conducted on other public land by the DNR, including state forests, state park, scientific and natural areas, and in collaboration with national forests, national parks, and tribes to provide deer habitat outside of WMA land. Habitat funds are spent on these lands in cooperation with the landowners/administrators. The deer plan stated that if a consistent means to report habitat enhancement benefitting deer across all state lands becomes available, DNR will refine this measure.

iv) **Expand reporting on habitat work to include work done to protect deer habitat on WMAs.** In addition to work conducted to create habitat on WMA land, substantial work is also being done to protect already established habitat.

Performance metric E.1.: Deer habitat management

- ***Description:*** *DNR habitat enhancement activities that benefit deer on WMAs*
- ***Target:*** *100,000 acres per year*
- ***Classification:*** **NOT MET, within 7% of goal**

Habitat management to benefit deer on WMAs include prescribed burning, removal of invasive species, plantings, and timber management. Over the five fiscal years, a total of 369,610 acres were improved for

DRAFT

deer on WMAs. The target goal of enhancing 100,000 acres of WMA land for the benefit of deer was not met in FY20 through FY24 (Figure 5), but was within 7% of the goal in FY24.

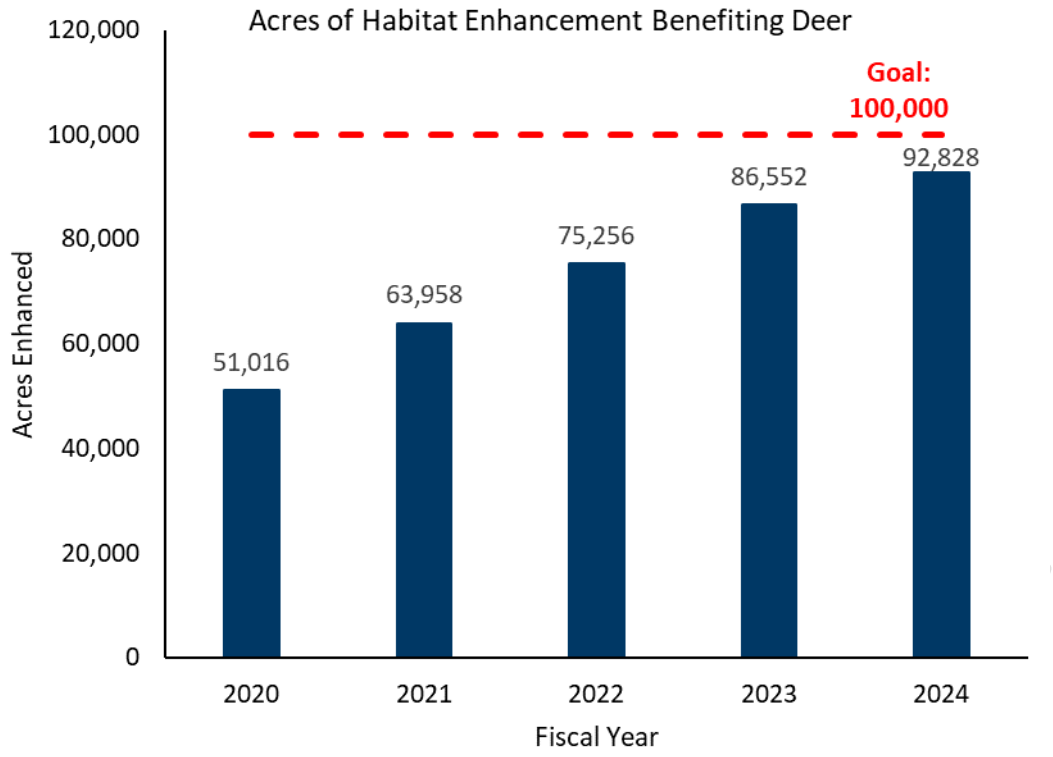

Figure 5: Annual acres by fiscal year of habitat enhancement benefiting deer on Minnesota WMAs (solid bars) with respect to the annual goal of 100,000 acres (red dashed line).

Performance metric assessment: Quality habitat is critical for meeting deer population goals and providing hunting opportunities. This metric and associated target are appropriate measures of the healthy habitat goal. Beginning in 2020, the COVID-19 pandemic created several challenges that impacted habitat management resulting in reduced acres being managed. These challenges included additional precautions for activities requiring staff working in proximity, such as prescribed burning, and work at home orders. There was also a state of Minnesota hiring freeze, which impacted permanent and seasonal hiring across the Fish and Wildlife division which then had impacts to accomplishment goals. These challenges have been resolved or lessened in recent years, resulting in consistent increases in acres of habitat being managed. However, even after these restrictions have largely been lifted, DNR Wildlife staff face difficulties with capacity issues as work areas have been consolidated over time, even when project funding is available to complete the work. A future barrier to meeting the targets may include funding issues given that the cost of herbicide, equipment, and contractors has increased significantly in recent years. Funding timelines also complicate the ability of staff to adjust funding needs on the fly as costs increase. Work planning activities should incorporate all DNR species plan performance metrics moving forward, as much as possible.

Goal F: IMPACT OF DEER ON OTHER RESOURCES: Reduce negative impacts of deer to the land, resources, and other species, including people.

Four objectives were identified under Goal F in the management plan:

- Provide tools and technical assistance to mitigate deer depredation and urban deer problems
- Provide additional harvest opportunities in areas of localized, high deer densities
- Consider impacts to other wildlife, their habitats, and other socioeconomic resources when making decisions about deer management
- Share available information and resources that communicate about deer impacts on deer public health and safety

Successes include additional capacity in the wildlife damage program and the expansion of the deer depredation antlerless permit program. There are three performance metrics related to this goal, one target (special hunts; see page 33) is being met and two (deer damage complaints and deer damage work completed; see pages 31 and 32) are not. Priorities for next phase of the deer plan for Goal F include improving internal processes related to deer damage assistance tracking, proposal of policy changes related to deer management, and the consideration of a Deer Management Assistance Program.

Achievements towards Goal F objectives FY20 to FY24:

- Deer population goals were revised statewide from 2019 through 2023 and included revised population goals of "stable" for deer populations in the primary moose range.
- The wildlife damage program restored to 3.5 Full Time Equivalent staff (FTE) in accordance with the wildlife section staffing plan.
- Expanded footprint of Deer Depredation Antlerless Permit program (DDAPs) to allow statewide use and changed the program to allow landowners residing in deer permit areas designated as antlerless permit lottery to enroll.
- Two big game program specialists hired in the big game program with geographic focus on northern or southern MN, part of these positions will be to focus on connecting the public with available resources to reduce deer damage.
- All municipal and state park special deer hunts approved with goals of many to reduce damage by deer to local habitats.
- Technical assistance provided to state park and scientific and natural area staff to protect sensitive habitats negatively impacted by deer.
- Streamlined carcass disposition of deer taken during urban and agricultural removal, facilitating removal of more deer where needed.
- Completed study of concentration of per- and polyfluoroalkyl substances (PFAS) in deer liver and muscle tissue from deer near PFAS release sites.
- Through collaboration with the Minnesota Department of Agriculture, ensured lead-free status of venison donated through the Venison Donation Program and distributed to food shelves and pantries.
- Proposed a policy initiative that allows non-lethal hazing of deer and elk causing agricultural damage, passed by the legislature in FY23.
- Implemented non-toxic ammunition requirement for special deer hunts occurring on State Parks and Scientific and Natural Areas beginning in FY24, thus limiting the impact of lead on the environment and wildlife in these landscapes.

DRAFT

Goal F Priority areas FY25 to FY29 related to Impact of deer on other resources:

i) **Propose policy changes related to deer damage.** Improve upon the current material assistance program for landowners and increase opportunities and regulatory alternatives for hunters and landowners to reduce locally overabundant deer populations. Evaluate internal policy changes related to the wildlife damage program including:
   a. **Explore increased staffing in the wildlife damage program and at local wildlife area offices to address deer damage issues.**
   b. **Streamline and standardize the internal tracking process for deer damage complaints, hunt management plans, detail management letters, CDMAs, and removal permits in a centralized system**.

ii) **Revise the Moose Research and Management Plan.** Identify new recommendations and strategies for management of deer in primary moose range.

iii) **Explore the creation of a Deer Management Assistance Program** assisted with new technologies available in the new ELS system, after phase 1 of the ELS is implemented.

iv) **Continue to encourage the use of non-toxic ammunition by deer hunters.** Using non-toxic ammunition helps protect humans and wildlife species (e.g., eagles, hawks, bobcats) from lead poisoning and also prevents lead accumulation in the environment.

Performance metric F.1.: Deer damage complaints reported to wildlife damage program

- ***Description:*** *Number of deer-related animal damage complaints (Wildlife Complaint Inquiry Logs, WCILs).*
- ***Target:*** *Less than 150 complaints per year*
- ***Classification:*** **NOT MET, for 3 of 5 FYs**

Public reports of deer damage, recorded by area wildlife managers in the DNR Wildlife Complaint Inquiry Log (WCIL), occur in all areas of the state. Complaints include, but are not limited to, consumption or damage of stored livestock forage and standing forage as well as damage to specialty crops such as orchards, row crops, private forest stands and landscaping or ornamental vegetation. Complaints may vary annually in relation to environmental (e.g., drought or severe winter) and other factors which affect deer behavior and public tolerance of deer damage. A portion of these complaints result in a formal request for technical or other assistance from DNR (i.e., via the development of a Cooperative Damage Management Agreement [CDMA]). This performance metric was achieved in two fiscal years, out of five, during the first half of the 10-year deer plan (Table 7).

Table 8 . The number of deer damage related Wildlife Complaint Inquiry Logs (WCILs) from FY20 to FY24.

Fiscal Year	WCILs
2020	324
2021	134
2022	180
2023	280
2024	41
Average	**192**

Performance metric assessment: There are aspects of deer damage complaints about which DNR staff have very little control, for example weather conditions such as severe winters, summer droughts, and commodity prices can all affect the tolerance of landowners towards deer damage. Thus, the target of 150 complaints or less may not be appropriate or feasible in some years. Staff capacity issues in the

DRAFT

wildlife damage program (only 3 full-time program staff; habitat and other workloads of area wildlife managers limit local availability) limit the DNR's ability to address complaints that are received. It's also possible that not all complaints are correctly logged. Some damage complaints may not reach area wildlife staff if they are first routed through the Information Desk and are not sent on to the area wildlife staff or the depredation program. Local area staff sometimes face capacity issues and are not always able to record all complaints. Other complaints are carryovers from the previous fiscal year as well. Solutions to these issues that should be explored include increased staffing in the wildlife damage program and at local wildlife area offices, as well as streamlining the process to enter and track complaints, and clear standardization of how wildlife complaint calls that come into the information desk are addressed. Increasing funding and capacity in the wildlife damage program could be beneficial to reducing the overall magnitude of wildlife damage issues in the state.

Performance metrics F.2.: Deer damage work completed

- ***Description:*** *Percentage of deer related WCILs addressed, and plans for resolution developed, within a year of being filed*
- ***Target:*** *100%*
- ***Classification:*** **NOT MET, for 1 of 5 FYs**

Wildlife damage program staff and area wildlife staff work cooperatively with agricultural producers to recommend the best long-term and short-term management tools to address deer damage. In most cases, the most effective way to reduce deer damage is by exclusion (i.e., a 10-foot woven wire fence) coupled with population management. Farmers who enter into a Cooperative Damage Management Agreement (CDMA) are eligible to receive material assistance from the Section of Wildlife.

WCILs are primarily used to track the number of deer-related complaints received by the DNR, but internal inconsistencies make tracking how DNR responds to WCILs unreliable. Therefore, to measure how the DNR responds to damage complaints, the percent of deer-related CDMAs that have a management plan in place is used as the best current indicator for this performance metric (Table 8). Management plans are created collaboratively between the producer and the DNR, outlining feasible management strategies and developed timelines to reduce or stop deer damage. Management plans may require detailed hunt plans aimed to reduce local deer densities through concentrated hunter effort, include material assistance such as fencing, or simply some level of technical assistance or advice. These plans are unique to individual producers/landowners to address specific issues and therefore management practices vary based on site- and context-specific factors.

During the first half of the deer plan implementation period, this metric was only achieved for FY24. However, using CDMAs with a management plan (e.g., hunt plans, material assistance, or technical advice) documented within 1 year as a way to measure the DNR's response to deer complaints may underestimate damage assistance provided by staff because some complaints don't require a CDMA. Notably, this midpoint review also found that a large percentage (32%) of CDMAs didn't have an associated WCIL, indicating that the reported deer-related WCILs are likely an underestimation of actual wildlife complaints.

DRAFT

Table 9: Number of Cooperative Damage Management Agreements (CDMAs) with a management plan, FY20 to FY23.

Fiscal Year	CDMAs	CDMAs with management plan	% with a plan
2020	33	30	91%
2021	24	21	88%
2022	21	10	48%
2023	53	19	36%
2024	5	5	100%
Total	**136**	**85**	**63%**

Performance metric assessment: Performance on damage metrics suggests a need to focus on deer management actions to reduce damage during the remaining years of the deer plan. The wildlife damage process can be very complicated and confusing, especially because there are various paths to address deer damage, and documentation of these paths exists in different systems and tracking is inconsistent. For example, CDMAs, WCILs, and removal permits (permits given to landowners to remove deer) are each tracked using a different internal system, while other components of management plans, such as hunt plans, have no tracking systems at all. These components should all be tracked in a centralized system, and internal consistency of documenting, addressing, and recording complaints should also be improved.

The number of CDMAs addressed, and management plans developed within 1 year, may not be the best information to measure this target, but it is the most reliable information currently available to the DNR. The intention of this metric was to account for the proportion of complaints from agricultural producers where a management plan was completed to address the issue; and for nonagricultural complaints that technical advice was provided and/or the situation was addressed with the landowner. Part of a CDMA can include a management plan but it's not always applicable. Sometimes all that is required to address the complaint is technical advice, and this is not always well documented. Current capacity issues prevent sufficient documentation of this target. Furthermore, If the CDMA requires material assistance, it will not be closed until that assistance is provided. Some complainants must wait 2 to 4 years to get materials or fences built (due to backlogs in funding and staff time), and in that case the complaint log (WCIL) and associated CDMA will progress into the next fiscal year (see performance metric F.1.).

The amount of physical material assistance provided to producers is likely a more appropriate measure of this metric than the number of CDMAs completed, and this metric should be reported in addition moving forward. A target goal of less than two years from when a CDMA is signed until material assistance is offered is also recommended given current staff capacity.

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Performance metrics F.3.: Special hunts

- ***Description:*** *Percentage of special hunt requests (e.g., city or park hunts to address over-abundant deer) satisfied*
- ***Target:*** *100%*
- ***Classification:*** **MET**

Special deer hunts provide additional hunting opportunities for areas normally closed to deer hunting (State Parks, Scientific and natural areas) and/or allow cities and other land managers the ability to permit deer hunting while controlling the number of hunters, method of take, and type of deer harvested. Since 2019, 100% of requests received for special deer hunts have been approved and implemented in the deer rule (Table 9).

Table 10: Special deer hunt requested and approved from FY20 to FY24.

Fiscal Year	Special Deer Hunt Requests	Special Deer Hunts Approved in the Deer Rule	Percent Approved
2020	121	121	100%
2021	123	123	100%
2022	128	128	100%
2023	123	123	100%
2024	125	125	100%

Performance metric assessment: This metric relates to the goal to "Reduce negative impacts of deer to the land, resources and other species, including people", specifically under Objective F.2 in the deer plan "to provide additional harvest opportunities in areas of localized, high deer densities". Special hunts are designed to do just that as they allow for hunting in places where it is not normally permitted to reduce deer numbers and alleviate human-deer conflict (and sometimes for disease management). This metric is simple to track but it may not be effective as a measure of performance towards the goal of limiting the impact of deer on other resources, as the number of approved requests does not display the effectiveness of the special hunts. The number of deer harvested during city, county and other special deer hunts might serve as an appropriate metric, however, deer harvested during special hunt harvests are frequently misreported as DPA-level harvests. The new ELS, set to be available in March 2025, may provide opportunities to improve accuracy of deer harvest reporting in special hunts.

Goal G: DEER MANAGEMENT FUNDING: Seek sufficient funding and promote cost-effective deer management

Three objectives were identified under Goal G in the management plan:

- Sustain and broaden funding sources related to deer research and management
- Prioritize deer research and management activities to provide long-term social, ecological, and economic benefits
- Commit to improve transparency regarding the use of deer license dollars

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Although spending on deer license funds is well-documented in the annual Game and Fish Fund report, areas for improvement for the deer management funding goal include broadening funding sources to increase diversity of funding for deer management. Disease surveillance and management continues to be a main component of spending related to deer, as the management of CWD is a major priority for MN DNR and the State.

Achievements towards Goal G objectives FY20 to FY24:

- Spending on deer research and management from the Deer and Bear Management Account, the Emergency Deer Feeding and Wild Cervidae Health Management Account, and the Deer Management Account were reported in the Game and Fish Fund Report for FY20 to FY24[†].
- $16 of each deer license purchase are dedicated to funds for deer management and research.
- The Conservation Partner Legacy Grant Program awarded $5,401,896 in competitive matching grants for 57 projects to fund habitat management activities that benefit deer[†].

Goal G priority areas FY25 to FY29 related to deer management funding:

i) **Consider improvement to funding or efficiencies related to the CWD deer dumpster program.** This dumpster program was first implemented in fall 2019 and has removed approximately 250 tons of deer waste annually to lined landfill in high-risk CWD areas to reduce potential disease spread and environmental persistence. However, this work has come at a substantial price tag to DNR. In FY20, $185,000 was spent on dumpsters; the cost more than doubled to $430,000 by FY23.

ii) **Continue to explore innovative and alternative funding sources to increase deer management funding diversity and resilience.** Deer research and management is primarily funded through license dollars. As hunter participation continues to slowly decrease as the baby boomer generation ages, funding for wildlife management is likely to become an increasing concern.

Performance metrics G.1.: Spending on deer management and research

- ***Description:*** *The money DNR spends on personnel time and projects related to deer management and research*
- ***Target:*** *None identified*
- ***Classification: Reported***

Funding available and directed to deer management and research activities has increased over the past four fiscal years and represents a substantial proportion of the Wildlife Section budget (e.g., over 30% in FY23; the FY23 wildlife section budget was $32.7 million; this percentage would be higher if the costs of CWD surveillance and management were incorporated). Although it varies by year, most money for deer management comes from the Game and Fish Fund (81-98% during the first four fiscal years of the deer plan). Starting in FY20, a greater percentage of deer license revenues were allocated to the deer management account. This shift in cost coding improved the agency's ability to track spending on activities that benefit deer management. Note that we excluded wetland habitat management from this estimate although it's likely that some of that management benefited deer populations.

[†] Achievement identified as or closely related to a near-term strategy for this goal in the deer plan.

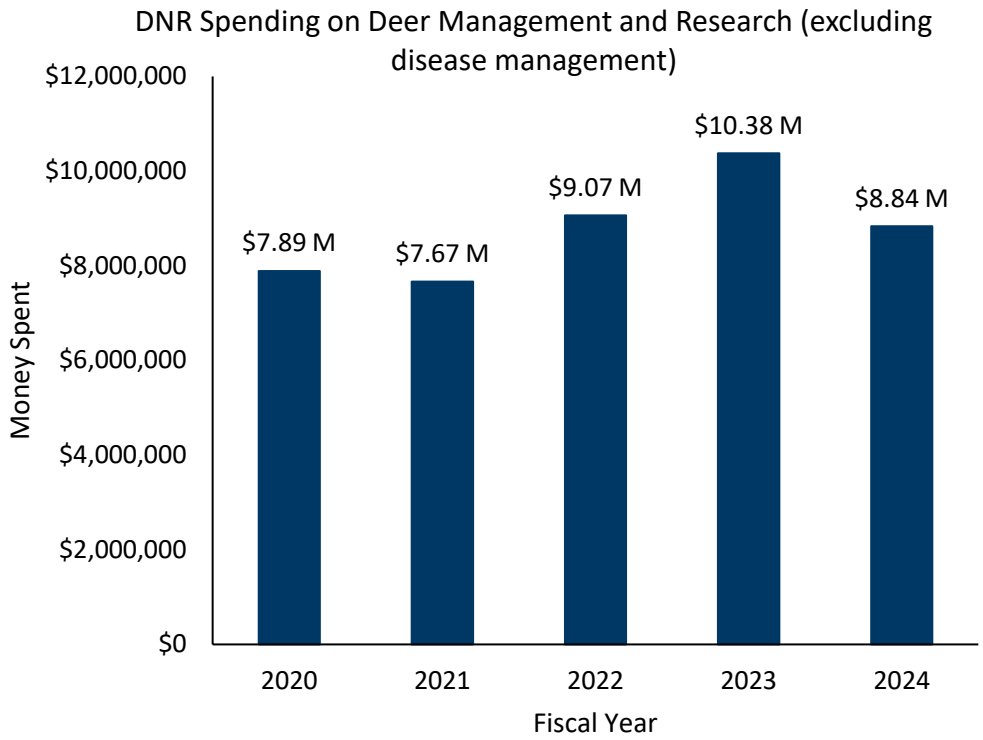

Figure 6: Total DNR spending on deer management and research.

Performance metric assessment: Funding risks for deer management and research include declining hunter participation and license sales. As mentioned earlier in this report, deer hunter numbers have declined from 474,905 in 2018 to 446,213 in 2023 and are anticipated to continue to decline given current trends. The resulting reduction of funding directly influences the DNR's ability to spend funds on deer management and research. Supporting R3 programming is one potential way to at least slow the trend of losing hunters. The DNR should continue to explore additional sources of funding that aren't directly tied to license dollars and ultimately reflect the management actions designed to benefit all Minnesotans.

Performance metrics G.2.: Spending on deer disease

- ***Description:*** *The money DNR spends disease surveillance and management*
- ***Target:*** *None identified*
- ***Classification: Reported***

Funding available and directed to deer health has increased over the past four fiscal years in response to the expanding presence of CWD disease management zones throughout the state. Funding sources vary by year, with the Game and Fish Fund contributing anywhere from 4 to 65% of the disease management spending during the first four fiscal years of the deer plan (Figure 7).

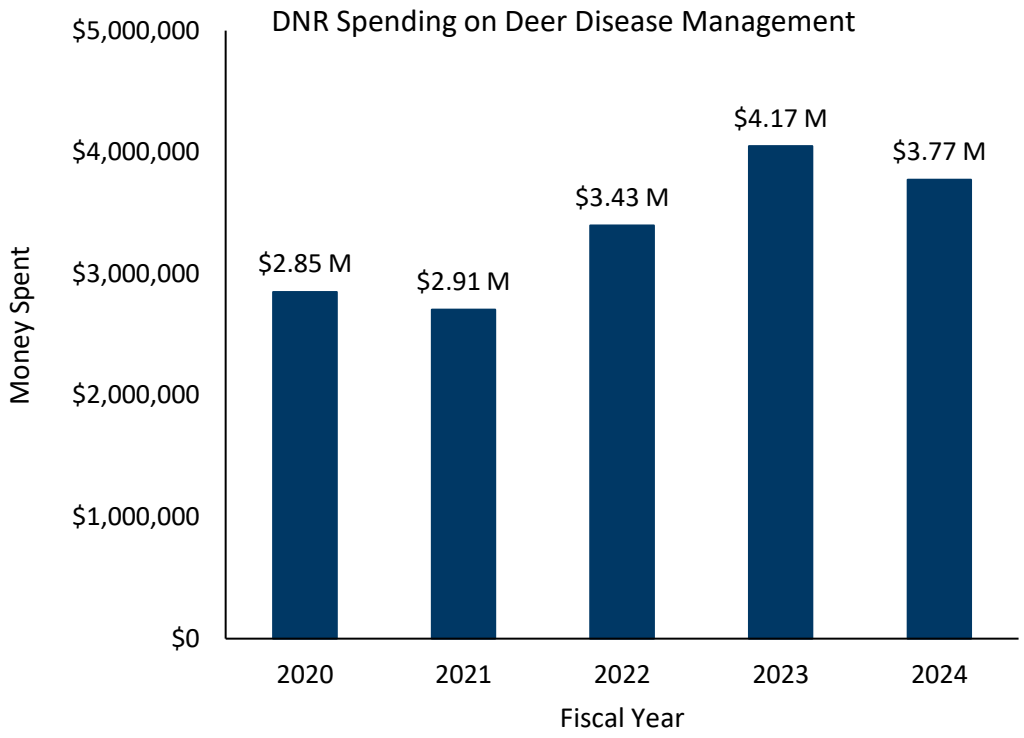

Figure 7: Total DNR spending on deer disease management.

Performance assessment: The management of CWD and health of Minnesota's deer population is a very high priority for MN DNR and that is reflected in the amount of funding spent on this issue. Reporting on the amount of spending related to deer health is important for public trust and transparency.

Goal H: DNR DEER MANAGEMENT: Practice and ensure continuous improvement within DNR's deer management program and supporting activities.

Two objectives were identified under Goal H of the management plan:

- Monitor and evaluate DNR's deer management program based on identified performance measures and propose changes to enhance performance as needed
- Increase DNR staffing in the DNR big game program to advance plan objectives, with an emphasis on communication and social science needs

Successes achieved include the information presented in this midpoint review (to be used for improvements in the remaining plan years) as well as the hiring of four staff in the Big Game Program. Identified opportunities for improvement regarding this goal include more frequent reporting of performance metrics on an annual basis.

Achievements towards Goal H objectives FY20 to FY24:

- New staff hired in Big Game program including Big Game Program Leader, Big Game Program Coordinator, and 2 Big Game Program Specialists.

- Additional capacity added to human dimensions program in the wildlife section to address deer social science needs.
- Deer population goal setting process revised, and population goals revised statewide, from 2019 to 2023.
- Implemented new tracking system for deer rulemaking (Wildlife Deer Rule Information System), which decreases opportunity for error in the deer rule, better tracks past decision-making and reduces staff time dedicated to season-setting.

Goal H priority areas FY25 to FY29 related to DNR deer management:

i) **Improved reporting on deer performance metrics by October 15 following each FY.** The deer plan directed that performance metrics be reported on each year, which has not been achieved. Capacity issues in the Big Game Program and other emerging considerations over the past four years (population goal setting, CWD, state agency hiring freeze) impacted the priority placed on annual reporting of these metrics. A number of barriers in collecting and reporting on the information have been alleviated through the completion of this review and should aid in reporting on these metrics moving forward.

ii) **Add capacity to wildlife section to address management of big game program data.** The Big Game Program, Research and Wildlife Health Program staff, area wildlife staff and others frequently access, modify, and analyze data related to deer harvest and monitoring, as well as license sales and hunter information. These data are often stored on personal or unshared drives, creating silos of information, resulting in multiple versions of databases, and creating confusion about where to find data related to deer. A position dedicated to the management and quality of big game program data is important to the success of deer management.

SUMMARY OF PRIORITY RECOMMENDATIONS FOR FY25 TO FY29

The following table lists all of the Priority Areas for the next 5 years contained in this document along with the goals that are relevant to each of the recommendations. Some priority areas are relevant to multiple goals but are only described once in the document above (under the most relevant goal).

Recommendations	Goal A	Goal B	Goal C	Goal D	Goal E	Goal F	Goal G	Goal H
Improve deer harvest and population information available to the public.	x	x						
Improve DNR communications related to wolves and deer.	x	x						
Improve information available to the public about deer population modeling and deer related research.	x	x						
Improve public communication about moose and deer management tradeoffs; provide clear direction for deer management in primary moose range.	x	x				x		x
Improve messaging about localized deer population culling for CWD management.	x	x						

Continue to explore simplification of regulations, including consideration of elimination of statewide bag limit and aggregated bag limit restrictions.	x	x	x					x
Assess and address barriers to deer hunting for new and diverse audiences, former deer hunters, and deer hunters who may be considering leaving the sport.		x						
Investigate policy and regulation changes that wouldn't increase biological risks for deer but would provide new and increased opportunities for deer hunters, both new and experienced.		x	x					
Increase networking and mentorship opportunities for current, new, and emerging deer hunters such that everyone has an opportunity to build community, share the knowledge they have, and learn new skills as a mentor or mentee.		x						
Improve public participation in deer-related engagement opportunities.	x	x						
Assess the need to adjust department policies to provide more timely public information related to the deer hunting season.	x	x						x
Increase frequency of collection of representative survey data on public trust in deer management, annually if possible.		x	x					x
Complete analysis of the legislative change allowing crossbows as legal archery weapons on deer populations, as directed in statute, by October 2025.		x	x					x
Improve information available to the public about DNR decision making related to deer management.	x	x						x
Assess the need for policy changes related to emerging technologies in deer hunting.			x					x
Consider alternative management regulations intended to increase removal of antlerless deer.			x	x	x	x		x
Explore effectiveness of new monitoring techniques currently under analysis.			x					
Explore feasibility and efficacy of an integrated deer population model.			x					
Consider new tools to monitor deer populations using new ELS system, including	x	x	x					

the collection of additional deer population metrics.								
Update vital rates for deer populations in northern Minnesota, including cause specific mortality rates of adult and juvenile deer, and age-specific fecundity rates.			x	x				
Identify new ways to increase meat processor participation in the Venison Donation Program.		x	x					
Continue to evaluate the effectiveness of strategies to manage CWD.			x	x				x
Continue surveillance of EHD or any other emerging disease threats in deer that may adversely impact deer populations.			x	x				
Improve public-facing content related to culling of localized deer populations as a tool to manage CWD.	x	x		x				
Assess ongoing needs for public engagement and/or meetings in areas of new and existing CWD detections.	x	x		x				
Oversee regulation of farmed white-tailed deer facilities in Minnesota to ensure health of the state's wild deer population.				x				
Consider new and emerging research on CWD to inform potential policy, rule, and legislative changes to the farmed white-tailed deer industry.				x				
Support recommendation in the midpoint assessment of the Sustainable Timber Harvest Initiative to develop a continuous improvement plan to alleviate implementation issues.		x			x			
Consider alternative approaches to School Trust Land revenue generation to justify deer habitat management and prevent sale of School Trust Lands.		x			x			
Increase the quantity and quality of winter habitat in northern forests.			x		x	x		x
Undertake efforts to better track and report on habitat work conducted by DNR on public land not including WMAs.	x				x			x
Expand reporting on habitat work to include work done to protect deer habitat on WMAs (for example, the number of timber stands	x				x			

removed from harvest to protect deer habitat).								
Propose policy changes related to deer damage material assistance, increase opportunities and regulatory alternatives for hunters and landowners to reduce locally overabundant deer populations.						x		x
Explore the creation of a Deer Management Assistance Program assisted with new technologies available in the new ELS system, after phase 1 of the ELS is implemented.	x	x				x		x
Continue to encourage the use of non-toxic ammunition by deer hunters	x					x		x
Explore increased staffing in the wildlife damage program and at local wildlife area offices to address deer damage issues.						x	x	
Streamline and standardize the internal tracking process to enter deer damage complaints, hunt management plans, detail management letters, CDMAs, and removal permits in a centralized system.						x		x
Consider improvement to funding or efficiencies related to the CWD deer dumpster program.				x			x	x
Continue to explore innovative and alternative funding sources to increase deer management funding diversity and resilience.							x	
Improved reporting on deer performance metrics by October 15 following each FY.								x
Add capacity to wildlife section to address management of big game program data.			x					x