2024 Indiana White-Tailed Deer Report

DNR
Indiana Department of Natural Resources
Fish, Wildlife & Nature Preserves

2024 Indiana White-Tailed Deer Report

Federal Aid in Wildlife Restoration Program

This program supports state fish and wildlife agencies to conserve, protect, and enhance fish, wildlife, their habitats, and the hunting, sport fishing and recreational boating opportunities they provide. This program was initiated in 1937 as the Federal Aid in Wildlife Act and created a system where by taxes are paid on firearms, ammunition and archery equipment by the public who hunts. Today this excise tax generates over a hundred million dollars each year that are dedicated to state wildlife restoration and management projects across the United States.

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Cover Photo

A white-tailed deer fawn at Summit Lake State Park. DNR File.

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Chapter 1. 2024-2025 Deer Report Overview

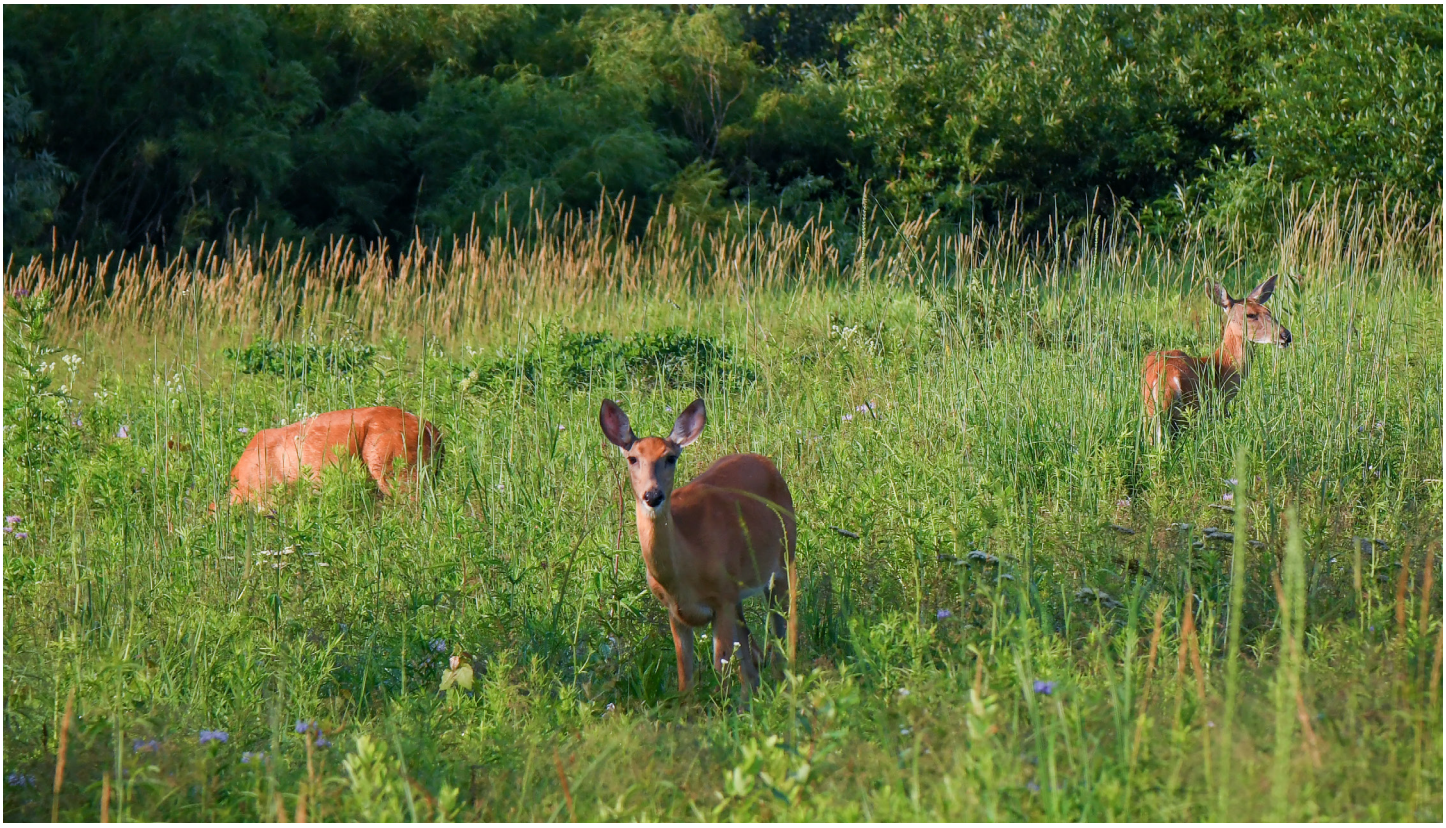
Joe Caudell, *Indiana Department of Natural Resources*

Welcome to the 2024 Indiana White-tailed Deer Report. Every year, Indiana DNR publishes a comprehensive report of the state's deer herd and deer management research. The report includes deer hunting season results, use of depredation permits, deer-vehicle collision reports, disease monitoring efforts, survey results, and internal and external deer research projects. Historical reports are available at on.IN.gov/INdeerreport.

2024-2025 Deer Hunting Season

The 2024-2025 deer hunting season was composed of four statewide seasons: Youth (Sept. 28 and 29), Archery (Oct. 1 to Jan. 5), Firearms (Nov. 16 to Dec. 1), and Muzzleloader (Dec. 7-22). Most resident deer licenses could be purchased for $39 and nonresident licenses for $240. A deer license bundle was available for purchase at $91 for residents and $550 for nonresidents. The deer license bundle, which is valid in all deer seasons except the Deer Reduction Zone season, allows hunters to take up to three deer (one antlered and two antlerless only) while attempting to satisfy statewide bag limits for the Archery, Firearms, Muzzleloader, and Special Antlerless Firearms (when open) seasons. A hunter may take only one antlered deer during all statewide seasons combined (Archery, Firearms, Muzzleloader, and Youth seasons). Resident landowners and lessees who own and/or lease Indiana farmland are exempt from needing deer licenses when hunting on their land. Hunters were required to register all harvested deer through the online CheckIN Game system within 48 hours of the kill of their deer.

Licensed youth, age 17 or younger, were eligible to participate in a youth-only season if accompanied by an adult at least 18 years old. Youth could take multiple



deer (one antlered deer and the number of bonus antlerless deer per county quota) during this special season.

The statewide archery bag limit was two deer. Hunters could take one deer per license, for a total of either two antlerless or one antlered and one antlerless deer. Hunters were allowed to use crossbows throughout the archery season by using an archery license instead of a crossbow license, which was a change for this year. Any deer taken with a crossbow counted toward the hunter's two-deer archery bag limit.

The bag limit during Firearms season was one antlered deer. The bag limit for Muzzleloader season was one deer of either sex (antlered deer were only allowed for hunters who had yet to satisfy their one antlered bag limit across all statewide seasons). A single firearms license was required to hunt with any combination of shotgun, muzzleloader, rifle, or handgun during Firearms season. A muzzleloader license (separate from the firearms license) was required to hunt during Muzzleloader season.

Hunters could harvest additional deer beyond the statewide bag limits in designated Deer Reduction Zones. Beginning with an antlerless deer, hunters were allowed to harvest up to 10 additional deer under the Deer Reduction Zone bag limit, for a total of either 10 antlerless or one antlered ("earn-a-buck") and nine antlerless deer. Harvest of these additional deer required the possession of a Deer Reduction Zone license for each deer harvested. An antlered deer harvested under the Deer Reduction Zone license did not count toward a hunter's statewide bag limit of one antlered deer. However, deer harvested in designated Deer Reduction Zones with other license types (e.g., archery, bonus antlerless, and license bundle) counted toward statewide bag limits. The Deer Reduction Zone season opened Sept. 15, two weeks prior to the beginning of Archery season, and continued through Jan. 31.

Multiple reserved draw hunts were open to hunters with a valid deer hunting license. Reserved draw hunt locations change annually. In 2024, reserved draw locations included Muscatatuck National Wildlife Refuge, Big Oaks National Wildlife Refuge, and Camp Atterbury Joint Maneuver Training Center, among others. For a complete list of reserved draw deer hunts, please visit on.IN.gov/reservedhunt.

Deer Control Permits and Deer-Vehicle Collisions

Deer control permits were issued to Indiana residents experiencing an economic loss of $500 or more because of property damage caused by deer or where there was an identified disease risk to humans or domestic livestock. Each depredation permit specified the number of deer a landowner was authorized to take under the permit. Permits were only valid on the permit holder's property, and the permit holder was allowed to designate assistants to remove deer in place of themselves. Depredation permits for deer are typically only issued outside of the deer hunting season.

Vehicle collisions involving deer and resulting in property damage of at least $2,500 or injury to any person were reported to the Indiana State Police and Indiana Department of Transportation by local and state law enforcement agencies. Information collected included location of collision (e.g., county, coordinates, intersection, etc.) and road type (e.g., county road, state road, interstate, etc.). The number of deer-vehicle collisions and the number of deer taken with depredation permits are factors that influence the bonus antlerless quotas for the hunting season and locations of deer reduction zones.

Deer Health

Indiana DNR monitors deer health for major outbreaks of diseases such as epizootic hemorrhagic disease (EHD), bovine tuberculosis (bTB), and chronic wasting disease (CWD). In 2024, DNR received 1,382 reports from 75 counties of potential EHD cases involving 2,644 sick or dead deer observed. Porter, Steuben, Allen, and Wabash received a significant number of reports and had an event that affected a significant amount of deer habitat. Deer harvests in Porter, Allen, and Wabash were down either near or below the low points for harvest compared with the previous 10 years. Testing for EHD requires fresh samples of the spleen, liver, kidney, or blood. Indiana DNR tested 32 deer from 24 counties. The EHD virus identified included two serotypes, EHDV-6 and EHDV-2. Maps of deer reported, tested, and confirmed to have EHD are available online at on.IN.gov/EHD and updated daily as reports are received. Reports of EHD were spread throughout the state, but the largest concentration was in the northern portion of the state. Indiana DNR did not conduct bTB surveillance in Franklin County in 2024 because the level of bTB in the area was likely low to non-existent. A total of 2,364 deer were tested for CWD statewide in 2024-2025. Indiana had its first positive CWD deer in the state from the 2023-2024 hunting season in LaGrange County and the second CWD positive deer from the 2024-2025 hunting season in Posey County.

Surveys and Volunteer Monitoring

Surveys of hunters, landowners, and other people are tools Indiana DNR uses to manage the state's deer herd. Before 2017, paper surveys were mailed to a subset of Indiana hunters and landowners every three or four years to ask questions about harvest, deer damage, and opinions on the size and management of deer in Indiana. In 2024, hunters had the opportunity to complete an online survey immediately after checking in their deer, and to participate in the Deer Management Survey to share their opinions of Indiana deer management. These surveys gather specific information about the deer that were harvested (e.g., sex, age, approximate size, etc.), the hunting experience associated with those deer (e.g., number of does or bucks seen, and happiness with the hunt), how hunters feel about the state's deer population, and how they would like deer to be managed. Indiana DNR also solicits participation from hunters and other members of the public in volunteer monitoring projects to collect valuable data on fawn-to-doe and buck-to-doe ratios to better understand the recruitment rates of populations at the county and regional levels.

Deer Research

Indiana DNR conducts research within its deer program and works with universities to conduct research on various topics related to deer management. In 2024, the deer program completed its work on CWD; continued its work on improving deer population estimation methods, researching the impact of EHD, examining the economics of deer management; and explored a new method to estimate the age of deer using genetic markers. Internally, scientists in the deer program began estimating deer population densities in the state, examined the distribution of hunting pressure, and asked hunters their opinion about the use of newer muzzleloader technologies for hunting during Muzzleloader season.

Chapter 2. Improvements In Deer Management

Joe Caudell, *Indiana Department of Natural Resources*

Deer Density Measurements

During the past six years, Indiana DNR has worked with Purdue University to develop a method of estimating deer densities that would be useful at a small scale and cost effective for the DNR to use statewide to estimate deer abundance. That data is published in Chapter 9 of this report. To create these population estimates, DNR uses a combination of aircraft over private land and unmanned aerial vehicles (drones) and game cameras on public lands. Aircraft has been shown to be cost effective at recording images of deer in undeveloped areas on private land because it can cover large portions of the state in a relatively short amount of time. Drones and game cameras may be most cost-effective on public land, where a higher level of precision is needed. DNR has used these methods to measure changes in deer density in Franklin County and northern Indiana during the two most recent epizootic hemorrhagic disease events and will use these methods to measure the recovery of the deer population. Each year DNR will estimate a portion of the state's deer population and report it in this annual report.

New Deer Hunting Rules and Laws Adopted for the 2025-2026 Deer Season

Senate Bill 280 was introduced to remove the rules requiring different centerfire rifle types on public and private land and to decrease the minimum bullet caliber requirement. The bill was signed into law and became active on July 1, 2025. Under the new law, rifles must fire a centerfire cartridge with a bullet diameter of .219 inches (5.56 mm) or larger. Additionally, a hunter may not possess more than 10 such cartridges for each of these rifles while hunting deer on both public and private land.

The Natural Resources Commission (NRC) adopted several new permanent hunting rules. Currently, there is confusion around the privileges allowed under each deer license, both among the public and the DNR employees responsible for interpreting and enforcing the deer hunting rules found in 312 IAC 9-3-2. Much of the confusion is a result of the multiple license types available for deer hunting, each having different limits of take and season bag limits. For example, redefining the bonus antlerless license as a multiple season antlerless license will simplify the privileges of a license holder and make it easy to determine what privileges a license holder has. Simplified regulations can also make hunting more accessible to individuals who are new to hunting deer and who may find license confusion to be a barrier of entry. Less confusing regulations will also lead to less staff time spent answering questions about license privileges from confused individuals. Below is a summary and brief justification:

Changes to 312 IAC 9-3-18.2: Creating a single license for archery and crossbow equipment

The NRC adopted the rule to eliminate the crossbow license by allowing individuals who use either a bow and arrow or a crossbow and bolt to purchase an archery license and use either equipment. The hope is this change will help reduce confusion among individual deer hunters and give a person an additional equipment option with the one license.

A recent survey of hunters found they were supportive of this change, although some do not consider crossbows to be "traditional" archery equipment. The

change should not impact revenue for the DNR because an individual is still required to purchase a license, and most individuals use either a bow and an arrow or a crossbow to hunt, but not both. Since legalizing the use of a crossbow in 2012, less than 1% of resident and nonresident hunters have purchased both a crossbow and an archery license or used both equipment types in the same license year. As for hunters who use the deer license bundle, since 2016 there has never been more than 93 individuals check in a deer under both equipment types in a given year. Given these metrics, it is unlikely that eliminating the crossbow license and allowing crossbow use under an archery license would contribute to a significant revenue effect either from a decrease in archery or crossbow license sales or disincentivizing deer license bundle purchases. It is also unlikely to result in a change in harvest. Currently, individuals who hunt using archery equipment can take an antlered or antlerless deer with an archery or a crossbow license, if they do not take more than one antlered deer in the regular deer seasons combined. However, the small percentage of individuals who purchase both an archery and a crossbow license could potentially save the cost of one license because a license holder could use either type of equipment with that one license.

A question in the 2022 Deer Management Survey asked about combining the archery and crossbow licenses into one license. DNR received 16,462 responses to this question. Of those, 73% supported this rule proposal (61% strongly supporting; 12% somewhat supporting), 12% were neutral, and 19% opposed (11% strongly opposing; 7% somewhat opposing).

In a 2021 survey, there were 894 archery-only respondents out of 16,462 total respondents (5.4%). Of those, 44% supported this proposal (31% strongly supporting; 13% somewhat supporting), 18% were neutral, and 38% opposed (30% strongly opposing; 8% somewhat opposing).

The DNR recognizes the desire of hunters to keep seasons specific to a type of equipment and to place certain limitations on others who hunt that season. However, one of the deer program's goals is to simplify the rules that govern deer hunting so that hunters desiring to enter the sport are less confused by the regulations. The adopted rule change will simplify what license is needed for hunting during archery season and increase the value of the archery license.

312 IAC 9-3-2: Change the deer license bundle to a buck and two does

The NRC adopted the rule to change the deer license bundle to allow hunters to take one buck and two antlerless deer and removed the option of harvesting three antlerless deer. This was proposed to further simplify regulations for hunters. Landowners and tenants of farmland who are exempt from needing a license to hunt deer on their own farmland would not be affected by this change, nor would resident youth license holders or lifetime license holders. This will also reflect how most hunters use this license because only a small fraction of hunters uses the license bundle to harvest three antlerless deer.

The DNR asked a question about changing the license bundle to allow hunters to only harvest one buck and two does in the 2022 Deer Management Survey. There were 16,374 responses to this question. Of those, 62% of hunters supported the proposed rule (40% strongly supporting), 19% were neutral, 18% opposed (11% strongly opposing). This change would align with current harvest quotas (i.e., one buck and two does per county).

312 IAC 9-3-2: Creation of the multiple season antlerless deer license

The NRC adopted this license terminology to replace the bonus antlerless deer hunting license and allow an individual to take one antlerless deer per license using equipment authorized during the season in which they are hunting.

312 IAC 9-3-2: Creation of a statewide antlerless bag limit

The NRC adopted the change to permanent rule to create a statewide antlerless bag limit to go along with the current statewide antlered bag limit. The reason for this proposed change was that the current county bonus antlerless quota (CBAQ) system allows individuals to shoot socially unacceptable numbers of antlerless deer across multiple counties, if individuals in each county take the maximum number of bonus antlerless deer available in each county. The new rules governing deer hunting will allow an individual to still take no more than one antlered deer during the regular deer seasons combined, as is allowed now, but it will also allow them to purchase up to six additional multiple season licenses to take antlerless deer in any of the regular deer seasons (e.g., archery, firearms, and muzzleloader). This is not expected to create a significant change in revenue for the DNR because there are fewer than 70 individuals who currently take more than seven deer during a regular deer season each year. There are very few if any individuals who take the permitted six antlerless deer under the current rules. There is a maximum number of antlerless deer allowed to be taken per county and a limit to the number of antlerless deer taken on certain DNR properties to help provide quality deer hunting opportunities. By implementing a statewide bag limit of six antlerless deer, the DNR will reduce the number of deer an individual may take, therefore reducing concerns about the unlimited number in the current CBAQ structure. The statewide antlerless limit will improve the perception of deer management by the DNR among residents who are concerned with high antlerless take allocations under current regulations. In the past, an emergency rule was enacted each year to establish the bonus antlerless deer bag limits per county and other limitations on properties where a bonus antlerless deer may not be taken. The change does not affect military hunts, deer reduction zones, or other special licenses, so hunters can still harvest additional deer if they desire.

The DNR asked a question about limiting the total number of antlerless deer that each hunter can harvest in Indiana to six antlerless deer in the 2022 Deer Management Survey, and there were 17,195 responses. Of those, 74% supported this to some degree (48% of those strongly supporting), 12% were neutral, and 14% opposed (7% opposing; 7% strongly opposing) this proposal.

312 IAC 9-3-2: Clarifying that the deer firearms license is buck-only

The NRC adopted the rule change to confirm in the language that the firearms license is “buck-only.” Hunters have been confused about the firearms license because it is “buck-only” compared to the archery, crossbow, and firearms licenses, which are “either-sex.” Hunters can harvest a doe with a firearm, but this currently must be done using a bonus antlerless license (will be the multiple season antlerless deer license with the proposed changes). Therefore, the NRC adopted a rule change to clarify the rules so that it explicitly states that hunters using a firearms license can only take one antlered deer. This is consistent with the current firearms seasonal limit of one antlered deer in 312 IAC 9-3-4(c) and does not represent an actual change to what hunters can do. One antlered deer may be taken during the firearms season (312 IAC 9-3-4(f)), which is the one antlered deer that can be taken statewide in the regular deer seasons combined (312 IAC 9-3-2(t)).

312 IAC 9-3-2: Changing to the County Bonus Antlerless Quota to a County Antlerless Bag Limit

There are many hunters who dislike the current bonus antlerless quota (CBAQ) structure because it is confusing. The CBAQ is additive to the number of antlerless deer that can be taken using archery and crossbow equipment and muzzleloading firearms during muzzleloader season. Because there are also individual bag limits for these two seasons, hunters often struggle to determine how many antlerless deer they can harvest. Mistakes are frequently made when checking in deer, causing staff to spend time in the CheckIN Game system making corrections for hunters. Mistakes are also made when purchasing licenses because hunters may be unaware of the bag limits for archery season and firearms season. Therefore, the NRC adopted a rule to change the CBAQ to a County Antlerless Bag Limit, which will provide a single number for the number of antlerless deer that can be harvested in that county, regardless of the equipment used to harvest antlerless deer.

The DNR asked a question about removing the "bonus" deer designation from rules in the 2022 Deer Management Survey, and there were 16,691 responses to this question. Of those, 64% of hunters supported this rule proposal (37% strongly supporting; 27% somewhat supporting), 24% were neutral, and 12% were opposed (6% opposing; 6% strongly opposing).

312 IAC 9-3-2: Prohibit hunters from harvesting antlerless deer on certain DNR properties with a firearm

The NRC has adopted a rule that will prevent hunters from harvesting an antlerless deer on Fish & Wildlife areas (FWAs), as well as a few other properties (Mississinewa Lake, Salamonie Lake, and Patoka Lake), using a firearm during firearms season. This is similar to the past emergency rule restricting the use of bonus antlerless licenses on FWAs. In a survey of deer hunters in 2022, hunters were asked their opinion of not allowing antlerless deer to be taken on FWAs with a firearm. There were 16,478 responses to this question, with 54% of hunters supporting this rule proposal (33% strongly supporting; 21% somewhat supporting), 29% were neutral, and 17% opposed this rule (9% strongly opposing; 8% somewhat opposing).

312 IAC 9-3-2: Replacement deer for deer harvested and determined to be unfit for consumption

The NRC has adopted a rule to allow a replacement deer to be taken for a deer that was legally harvested and found to have meat that is unfit for human consumption under 312 IAC 9-3-2(bb). An individual taking a deer that is unfit for human consumption is a common occurrence during deer season, with a peak during firearms season as this is when most individuals take their deer. Currently, DNR staff examine photographs, evaluate the condition based upon observations by biologists and conservation officers, or both. A decision is made whether to allow a person to take another deer if the staff determines the deer is inedible based on internal guidelines. If an individual calls with concern over the fitness of an antlerless deer, and there is evidence of systemic infection, DNR staff allow the individual to take another antlerless deer on the current license used to hunt a deer. The process for determining the fitness of an antlerless deer for human consumption is simple and uniform because the only issue determined by the DNR is the usability of the meat to the individual.

When an individual calls regarding the fitness of a buck (antlered deer), there is often an issue regarding the desirability of the antlers to that individual. DNR

staff found that some individuals who are dissatisfied with the antlers on their buck who can find something wrong with the carcass will call asking to be able to take another buck on their license. Additionally, some individuals see this as another opportunity to take a second buck in addition to the first buck if the meat of the first buck is not edible, and the individual believes they will get two sets of antlers for the year. If DNR staff decide that a buck is unfit for human consumption, DNR staff are required to make arrangements to collect the antlers. The process is lengthened because the individual must decide if they are willing to live with the antlers but not have meat from the deer. The willingness of an individual to give up antlers often helps DNR staff determine whether the individual is trying to get another opportunity to shoot a second buck, or whether the individual has a real concern about the condition of the meat. Currently, DNR does not allow individuals who have taken a deer that cannot be eaten to keep the antlers to memorialize a hunt. The change would make the response to these calls more uniform for the individual. DNR staff would then offer to replace the meat with an antlerless deer privilege. This approach would be more consistent for the individual and would replace the meat portion of the deer without needing to take away the antlers on the buck that was taken. This is different from the process in which if the DNR suspects a disease, such as bovine tuberculosis, DNR staff confiscate the whole deer and allow the individual to take another deer on that same license. The current process will remain in place for a deer that the DNR confiscates for disease reasons.

312 IAC 9-3-3: Allowing .40 caliber muzzleloaders during muzzleloader season

The NRC has adopted a rule to allow the use of a .40 caliber muzzleloader, which will allow more individuals to use equipment currently unable to be used to hunt deer. A resident requested the use of this equipment previously. DNR examined the muzzle velocity and energy and found that an example of a .40 caliber muzzleloader (CVA Paramount HTR) loaded to the recommended powder specifications with a 225 grain bullet is capable of a muzzle velocity of greater than 2,600 feet per second with an energy of greater than 3,500 ft. lbs. At 200 yards, the velocity is still greater than 2,200 feet per second with approximately 2,300 ft. lbs. of kinetic energy remaining. This is more than enough velocity and energy to kill a deer effectively at more than 200 yards with an expanding bullet.

312 IAC 9-3-3: Clarifying two pistol calibers for deer hunting

The NRC has adopted a rule to change the language in 312 IAC 9-3-3 to correct the terminology for a .25-20 Winchester and a .32-20 Winchester. This ammunition is currently allowed, but the terms need to accurately reflect the names of the cartridges used by the manufacturers.

312 IAC 9-3-3: Changing the dates for tree stands on public land in Deer Reduction Zones

The NRC has adopted a rule to allow portable tree stands and ground blinds to be placed on DNR properties between noon on Sept. 1 and Feb. 8 within a deer reduction zone. Allowing an individual to set up a stand on Sept. 1 gives the individual time to set up the deer stand prior to the start of the reduction zone season (Sept. 15) and allows the individual to leave it in place on the property until after the season ends. Therefore, these additional dates are proposed to be added in subsection (g) for properties that are in a deer reduction zone because the reduction zone season begins Sept. 15 and ends Jan. 31.

312 IAC 9-3-3: Allow hunters to retrieve deer using thermal or infrared detectors for retrieving deer

During the past several years, hunters have asked if DNR would allow the use of thermal and infrared detectors to locate and retrieve dead deer. DNR examined this issue and found the current language is inconsistent in that it is the only state law or rule that places a prohibition on equipment or methods used to retrieve a dead deer. 312 IAC 9-3-3 allows methods such as dogs and horses to be used to track or trail a dead deer. This change would also be consistent with IC 14-22-6-16, which prohibits the use of unmanned aerial vehicles to aid in hunting but allows their use to retrieve a dead wild animal. Therefore, the Natural Resources Commission has adopted a rule to allow the use of this equipment to retrieve legally harvested deer (but not when hunting deer).

312 IAC 9-3-4: Allow youth hunters to take no more than one deer on specific public land

The NRC has adopted a rule change to 312 IAC 9-3-4 that will limit youth hunters from taking more than one antlerless deer on certain DNR properties. This is currently the status quo and will not represent a change to current deer hunting regulations. In past years, this rule language has been established by emergency rule, but a new Indiana law prohibits the use of emergency rules for the purposes of establishing deer hunting regulations except under certain conditions (see HEA 1623-2023).

312 IAC 9-3-4: Removal of the 'A' designation for County Bonus Antlerless Quotas

The 'A' designation was historically used in counties to limit the harvest of bonus antlerless deer to the last half of firearms season. Recent data on the deer population has shown this is not necessary, especially with the switch from the County Bonus Antlerless Quota system to using a total antlerless bag limit for each county. All counties have a normal antlerless bag limit of at least one deer, and this is not expected to change soon.

312 IAC 9-3-4: Adding the Deer Reduction Zones to rule language

Regarding the changes in subsection (e), Deer Reduction Zones (DRZs) target areas that have high deer populations and high human density or use, resulting in concerns about deer and vehicle collisions and personal property damage. A DRZ has traditionally been established by an emergency rule to allow for changes as needed annually, but because of HEA 1623-2023 the DNR may no longer use emergency rules for this purpose. The DNR designates an area as a DRZ to manage deer conflicts through sport hunting. A DRZ provides individuals with additional opportunities to take a deer in that area. The goal is to reduce conflict between deer and humans, not to eliminate the deer population. Incorporating or increasing hunting helps manage deer populations and increases deer wariness of humans, which can also reduce conflicts.

The smallest deer management unit in the state has traditionally been the county; however, a DRZ allows the DNR to target areas within a county for management. This should allow deer in one part of a county to remain stable or increase while decreasing populations in another part of the same county. The approach coincides with the state's current deer management plan, which is to strategically manage the state's deer herd. Therefore, in some areas of the state, there should be a larger deer population, while in others the population should be maintained or reduced. A DRZ allows managers to target such areas without reducing deer populations throughout an entire county.

Researchers identified potential areas with high conflict between humans and deer or high use by mapping areas with high human density and high rates of deer and vehicle collisions. Other conflicts may include reports of deer damage by landowners, requests for deer damage permits, requests by community leaders, or calls for assistance through DNR's district and urban biologists. The designation process results in two types of DRZs: (1) traditional; and (2) corridors. Traditional DRZs are established near or around urban areas and encompass a community. Alternatively, DRZ corridors are created along portions of major roadways to specifically address high rates of deer and vehicle collisions.

The increased allowable antlerless take and lengthened deer reduction zone season mean that the individuals who hunt deer can help address problem areas and potentially reduce the need for other measures, such as the use of deer damage permits. DRZs can increase opportunities to hunt deer in urban environments and help alleviate conflicts between humans and deer. The deer program staff recently conducted an analysis to determine the effectiveness of DRZs in reducing deer and vehicle collisions. DNR staff found a decrease in deer and vehicle collisions within DRZs of approximately 15% after allowing individuals to take additional deer within DRZs. These results demonstrate the effectiveness of using targeted recreational hunting as a management tool to reduce deer and vehicle collisions.

312 IAC 9-3-4: Removing the bag limits for archery and muzzleloader licenses

The NRC has adopted a rule that would remove the season bag limits for deer taken with muzzleloader and archery licenses. Individuals will be able to take the number of antlerless deer allowed per county within the proposed new statewide bag limit using archery and muzzleloader licenses. Allowing an individual to take more than two antlerless deer on archery licenses and more than one antlerless deer on a muzzleloader license will reduce confusion about which license an individual is required to purchase and how to check in a deer that is taken during a hunt. DNR staff time is wasted trying to explain the requirements of a license to an individual and correcting an accidental mistake an individual makes when checking in a deer. Therefore, this change will result in improved individual service, reduced staff time, and ease of understanding the rules without making a change to the harvest.

312 IAC 9-3-2 and 312 IAC 9-3-4: Switching to an Antlerless Bag Limit for each county

Since 2017, county bonus antlerless bag limits have been set on an annual basis by emergency rule to allow for changes each year. However, that is no longer an option under HEA 1623-2023; therefore, the county bag limits have been added to this rule. These county bag limits are established using the following: information on individual's desires for the deer population to change from the annual Deer Management Survey, trends in various deer population indices including deer-vehicle collisions, the Archer's Index, changes in effort to take deer, deer damage permits, and others; professional opinions of wildlife biologists and conservation officers; the effects of disease; and the effects of changes on individuals and the deer population. Most recently, the DNR has added data about deer density from the Northeastern, East Central, and Southern Deer Management Units (DMUs) from the Purdue Integrated Deer Management Project. Because the county antlerless bag limit will now be a combination of the various equipment bag limits and the county bonus bag limit, DNR staff used the following method to create the proposed antlerless bag limit for inclusion in the rule:

- Because prior county bonus antlerless quota decisions were based on the data gathered each year, using data from the county data available at IN.gov/dnr/fish-and-wildlife/wildlife-resources/animals/white-tailed-deer/county-data/.
- DNR staff selected "normal" years (i.e., not a COVID year and not an epizootic hemorrhagic disease [EHD] recovery year). Most often, data from 2022 was selected unless a county was still in a recovery period from EHD. In those cases, 2018 was selected as the next best alternative.
- DNR staff examined the number of affected individuals and the number of deer that would not be taken at a proposed county bag limit (or the increase in take at a proposed county bag limit).
- DNR staff selected a bag limit at which very few hunters (fewer than 10) would be affected by this new bag limit and a number at which individuals were using the available bag limit. For example, Steuben County could have a higher bag limit based on population data, but DNR staff have observed from experience that individuals will not use an additional antlerless deer bag limit even if it is available. The DNR has seen cases in which individuals will decrease their personal take if they believe the county bag limit is too high. Therefore, the DNR will keep a designated county bag limit of three for Steuben rather than a four or five, even though the population would support a higher bag limit.
- Minor changes were made to try to keep the counties similar within Deer Management Units.

Currently, Franklin County and Fayette County have a low county bag limit to offset the effects of EHD. The DNR is proposing that the county bag limit be one beginning in 2024, and two beginning in 2025. The DNR will continue to review the data for these counties over time and make changes to get them to their target county bag limit of three for Fayette County and four for Franklin County.

312 IAC 9-3-2 (h): Removing the Late Antlerless Firearm Season

Indiana currently has a firearms season for antlerless deer from Dec. 26 through the first Sunday in January of the next year in counties with a bonus antlerless quota of four or more deer. This rule was initially enacted to try to significantly increase harvest of antlerless deer, but research on that season found that hunters just harvest antlerless deer later in the season in counties where that season is in place (see the 2020 Deer Report). DNR also surveyed hunters on their opinion about that season in 2021 and found that only 24% of hunters used the season in the previous year, and 38% of hunters reported hunting that season in the previous five-year period (see the 2020 Deer Report). When DNR asked what the general level of opposition or support was for that season, it found that 43% were supportive to some degree, and 27% were opposed to some degree. Because of the change in the bonus antlerless quota system, if this season were to be retained, DNR would need to either anchor this season to the new antlerless bag limit system or create a new method for enacting it. Therefore, because of the split interest by hunters for having this season, the low use by hunters, and the ineffectiveness at changing deer harvest, the Natural Resources Commission has repealed this rule.

Chapter 3. 2024-2025 Deer Hunting Season

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Errors in Reporting

The online check-in system, CheckIN Game, was initiated in 2012 as an option for hunters and was made Indiana DNR's primary game-checking system in 2015. Hunters who check in their game online occasionally make errors in reporting their harvest. Errors include checking in deer with the wrong sex indicated, incorrect licenses, or multiple entries of the same deer. DNR works constantly throughout deer season to correct these errors so that harvest numbers are as accurate as possible. In many cases, this involves contacting hunters by telephone or email to determine what type of error has been made before a correction can be issued.

For this reason, the data in this document should be considered to have a certain amount of reporting errors. Hunters or others who use these data should expect that the numbers reported in future Indiana White-tailed Deer Reports may change slightly based on corrections of such errors. This is also true for the Deer Counter on the DNR Deer webpage (deer.dnr.IN.gov). Some hunters have observed the reported total harvest decreasing as the corrections to the data were made and have contacted the DNR to ask why.

Two error rates were calculated for this issue: an unreconciled error rate and a total error rate that includes both reconciled errors and unreconciled errors (Table 3-1). Typically, the numbers reported in this document will fluctuate only by the unreconciled error rate, as the reconciled errors have already been voided and are not included in the data. However, occasionally statistics might have been calculated without removing the voided transactions. Because error rates are relatively low, they have no effect on management decisions.

Harvest totals for the 2024 deer hunting season are current as of May 7, 2025. Additionally, harvest totals for the 2016-2023 seasons have been updated since previously reported. In this report, the updated totals are used in analyses and comparisons between years.

Table 3-1. Error rates of hunter-reported deer harvests, 2018-2025. Total error includes reconciled and unreconciled errors. Reconciled errors have already been removed from the dataset.

	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025
% total error	0.57	0.23	0.21	0.2	0.19	0.24	0.23
% unreconciled error	0.13	0.13	0.15	0.13	0.14	0.17	0.15

Harvest by Season

Harvest summary reports prior to 2016 did not include harvest numbers from Indiana State Park Management Hunts because those deer were checked in at the properties and reported separately by the Division of State Parks. Now that the deer check-in process is online for all hunters and hunts, deer harvested during State Park Management Hunts are included in the check-in database and can be reported with the statewide totals.

Shed bucks are checked in as antlerless deer in the CheckIN Game system and do not count against a hunter's buck limit. However, for the purpose of analyzing the harvest data, antlered bucks and shed bucks are grouped as antlered deer, while does and button bucks are grouped as antlerless deer, unless specified.

A total of 126,169 harvested deer were reported in Indiana during the 2024 season (Figures 3-1 and 3-2). This harvest was 4.0% higher than the 121,263 deer taken during the 2023 season. The antlered deer harvest of 59,643 was 2.4% higher than the 58,220 reported in 2023. The antlerless harvest of 66,526 was 5.5% higher than the 63,043 harvested in 2023. In 2024, the reported harvest for total deer ranks ninth highest all-time, while the total antlerless deer harvest ranks as the 18th highest in Indiana history. The antlered harvest ranks the highest since reporting began in 1951. Approximately 4.60 million deer have been reported harvested during the past 74 deer-hunting seasons in Indiana.

The hunting season began with the Deer Reduction Zone on Sept. 15, followed by a youth-only weekend (Sept. 28-29). The number of deer harvested with archery equipment during the Deer Reduction Zone season was incorporated into Archery season totals, while deer harvested with firearms during Deer Reduction Zone season were incorporated into Firearms season totals.

Youth season was created in 2006, allowing youth 15 years old and younger to harvest one antlerless deer. In 2009, it was changed to include all youth 17 years old and younger. Youth hunters may harvest an antlered deer, which counts toward the statewide bag limit of one antlered deer and the number of antlerless deer determined by bonus antlerless quotas in each county. A total of 2,694 deer were reportedly harvested in 2024 during this season, 1.0% lower than the 2,720 deer harvested in 2023. This season resulted in 2.1% of the total harvest (Table 3-2). Approximately 40.6% of the Youth season harvest was antlered bucks (Figure 3-3).

There were 37,110 deer harvested during Archery season, which represented 29.4% of the overall harvest and was 5.7% lower than the 39,368 deer harvested in 2023 (Table 3-2). Antlered deer (n=17,337) made up 46.7% of the total Archery season harvest (Figure 3-3).

The Firearms season harvest of 76,644 was 8.4% higher than the 70,725 deer harvested in 2023 and represented 60.7% of the total harvest (Table 3-2). The antlerless harvest of 38,015 was 9.5% higher than the 2023 antlerless harvest. The 2024 antlered harvest of 38,629 was 7.2% higher than the number of antlered deer harvested in 2023. The antlered harvest exceeded the antlerless harvest on the first six days of the season. The antlerless deer harvest outnumbered antlered deer harvested during the other 10 days of the season (Table 3-3). Opening weekend contributed 24.4% of the statewide total harvest for all 2024 seasons, compared to 26.3% in 2023. Antlered deer accounted for 50.4% of the total Firearms season harvest (Figure 3-3).

At 9,721 deer, the Muzzleloader season harvest accounted for 7.7% of the total 2024 harvest (Table 3-2). The muzzleloader season harvest was up 15.0% from the harvest of 8,450 in 2023. As in years past, a large percentage of the deer harvested during Muzzleloader season were antlerless (62.9%, Figure 3-3).

Figure 3-1. The total number of deer harvested in each Indiana deer season, 1951-2024. Totals include deer harvested in State Park Management Hunts, 1993-2024. Reporting error rates: ±0.23% (2024), ±0.24% (2023), ±0.19% (2022), ±0.20% (2021), ±0.21% (2020), ±0.23% (2019), ±0.57% (2018), ±1.30% (2017), and ±0.67% (2016).

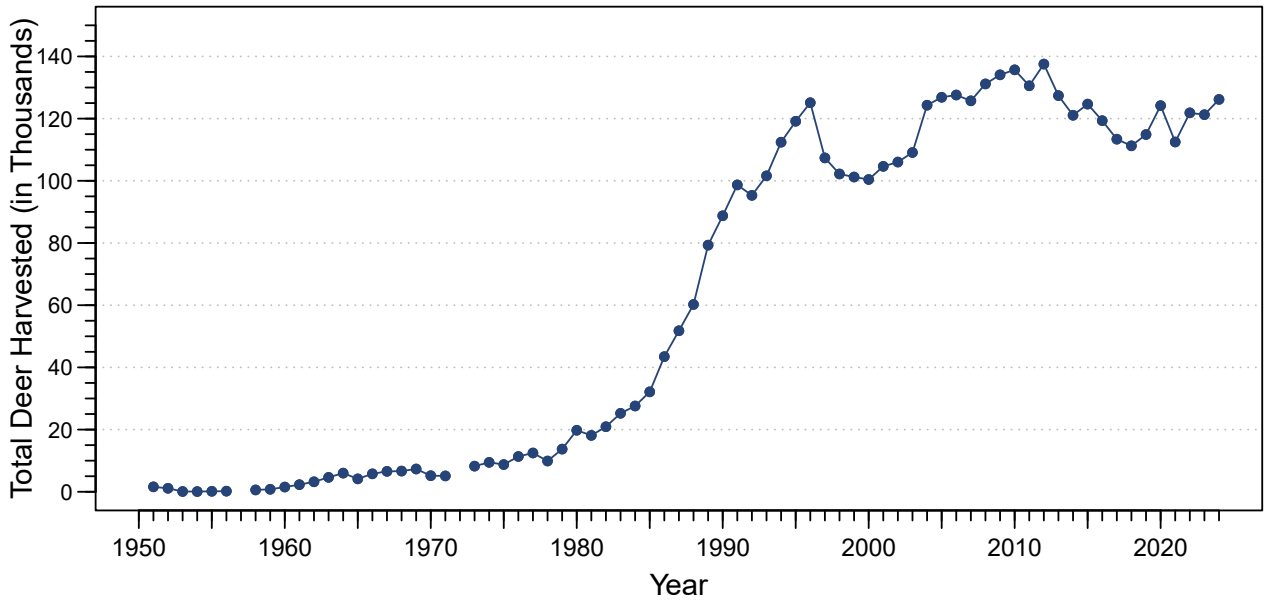


Figure 3-2. A comparison of the total number of deer harvested in each Indiana deer season, including and excluding deer harvested during State Park Management Hunts, 1993–2024. Reporting error rates: ±0.23% (2024), ±0.24% (2023), ±0.19% (2022), ±0.20% (2021), ±0.21% (2020), ±0.23% (2019), ±0.57% (2018), ±1.30% (2017), and ±0.67% (2016).

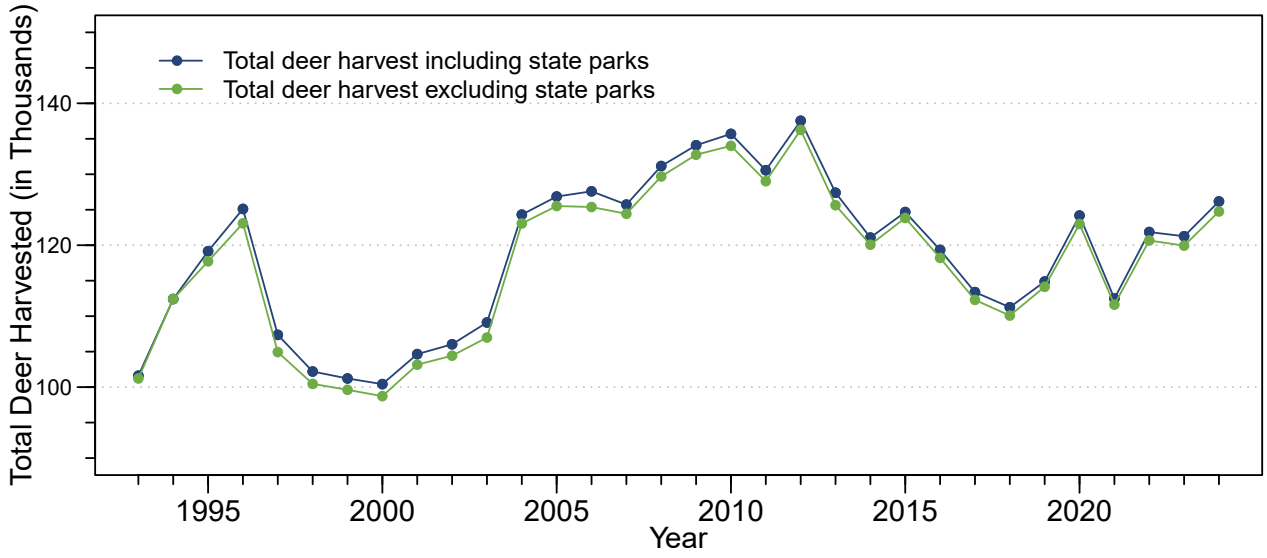


Table 3-2. Number of deer harvested by season during the 2024 Indiana deer hunting season. Total harvest and percent of total harvest are labeled by each season. Values may not total 100 due to rounding. Reporting error rate: ±0.23% (2024).

Season	Antlered	Antlerless	Total
Youth Deer (28 - 29 Sept)	1,093 (0.9%)	1,601 (1.3%)	2,694 (2.1%)
Archery (1 Oct - 5 Jan)	17,337 (13.7%)	19,773 (15.7%)	37,110 (29.4%)
Firearms (16 Nov - 1 Dec)	38,629 (30.6%)	38,015 (30.1%)	76,644 (60.7%)
Muzzleloader (7 - 22 Dec)	2,584 (2%)	7,137 (5.7%)	9,721 (7.7%)
Totals	**59,643 (47.3%)**	**66,526 (52.7%)**	**126,169 (100%)**

Figure 3-3. Composition of individual season harvests during the 2024 Indiana deer season. Reporting error rates: ±0.23% (2024).

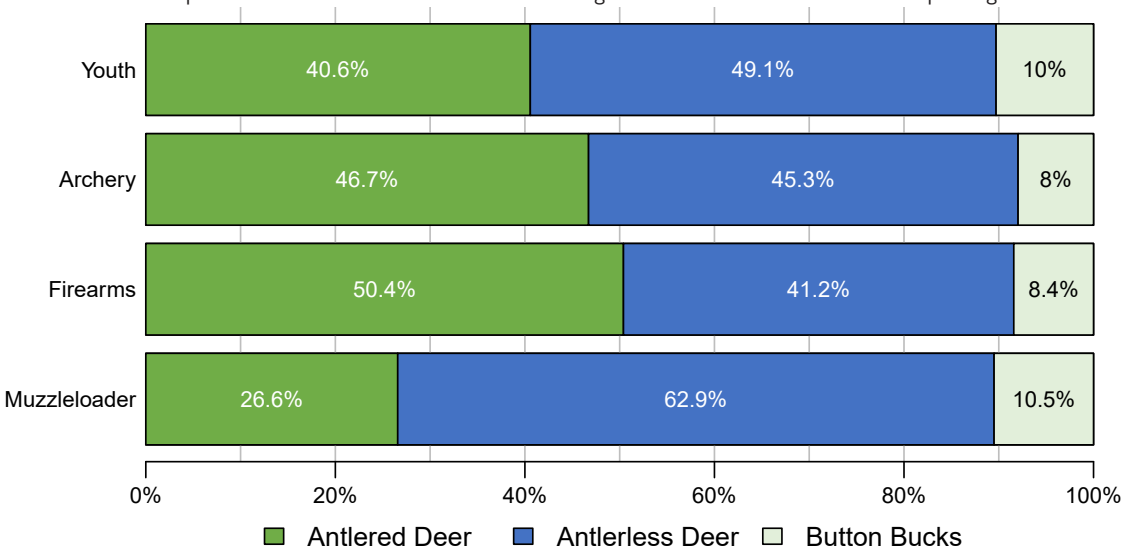


Table 3-3. Antlered and antlerless daily harvest and percent of harvest by season and total harvest from the start of Firearms season through the end of Firearms season, Nov. 16-Dec. 1. Reporting error rate: ±0.23% (2024).

Date	Day	Antlered Deer	Antlered % of Daily Total	Antlerless Deer	Antlerless % of Daily Total	Total Deer	% of Season Total	% of Total Harvest
16-Nov	Sat	12,627	64.4	6,972	35.6	19,599	26.3	16.1
17-Nov	Sun	6,029	59.3	4,146	40.7	10,175	13.7	8.4
18-Nov	Mon	1,962	56.4	1,517	43.6	3,479	4.7	2.9
19-Nov	Tue	1,361	55.8	1,080	44.2	2,441	3.3	2.0
20-Nov	Wed	1,271	57.1	953	42.9	2,224	3.0	1.8
21-Nov	Thu	1,119	50.1	1,116	49.9	2,235	3.0	1.8
22-Nov	Fri	1,541	48.8	1,614	51.2	3,155	4.2	2.6
23-Nov	Sat	2,843	46.3	3,297	53.7	6,140	8.2	5.0
24-Nov	Sun	2,017	43.7	2,602	56.3	4,619	6.2	3.8
25-Nov	Mon	578	42.3	787	57.7	1,365	1.8	1.1
26-Nov	Tue	876	40.3	1,298	59.7	2,174	2.9	1.8
27-Nov	Wed	751	38.8	1,184	61.2	1,935	2.6	1.6
28-Nov	Thu	1,002	39.6	1,528	60.4	2,530	3.4	2.1
29-Nov	Fri	1,183	33.5	2,347	66.5	3,530	4.7	2.9
30-Nov	Sat	1,527	31.5	3,319	68.5	4,846	6.5	4.0
1-Dec	Sun	1,310	32.2	2,764	67.8	4,074	5.5	3.3
Total	**N/A**	**37,997**	**N/A**	**36,524**	**N/A**	**74,521**	**100.0**	**61.2**

Harvest by County

The number of deer harvested in individual counties ranged from 174 in Benton County to 3,261 in Steuben County (Table 3-4). Harvest exceeded 1,000 deer in 65 counties and 2,000 deer in 16 counties. Antlered buck harvest exceeded 1,000 in 14 counties in 2024 compared to 11 in 2023, while antlerless harvest exceeded 1,000 deer in 18 counties, compared to 16 the previous year. Antlerless deer accounted for at least 50% of the total harvest in 67 of the state's 92 counties in 2024. The 10 counties with the highest harvests were, in descending order, Steuben, LaGrange, Noble, Harrison, Kosciusko, Dekalb, Washington, Parke, Marshall, and Putnam. The 10 counties with the lowest harvests, beginning with the lowest, were Benton, Tipton, Hancock, Rush, Marion, Ohio, Howard, Boone, Clinton, and Shelby.

Table 3-4. Deer harvest by county during the 2024 Indiana deer hunting season. Reporting error rate: ±0.23% (2024).

County	Antlered Harvest	Antlerless Harvest	Total Harvest	Square miles in county	Percent of Deer Habitat in County	Square miles of deer cover	Antlered harvest per square mile of deer cover	Doe Harvest per square mile of deer cover	Total harvest per square mile of deer cover
Adams	382	416	798	340	9%	32	11.9	13.0	24.9
Allen	756	850	1,606	660	18%	117	6.5	7.3	13.7
Bartholomew	495	560	1,055	409	37%	152	3.3	3.7	6.9
Benton	113	61	174	406	2%	9	12.6	6.8	19.3
Blackford	259	324	583	166	13%	21	12.3	15.4	27.8
Boone	288	253	541	423	9%	40	7.2	6.3	13.5
Brown	638	852	1,490	316	90%	286	2.2	3.0	5.2
Carroll	572	603	1,175	375	14%	52	11.0	11.6	22.6
Cass	774	762	1,536	415	16%	67	11.6	11.4	22.9
Clark	671	704	1,375	376	63%	237	2.8	3.0	5.8
Clay	658	665	1,323	360	37%	133	4.9	5.0	9.9
Clinton	271	284	555	405	7%	26	10.4	10.9	21.3
Crawford	1,001	1,000	2,001	309	88%	273	3.7	3.7	7.3
Daviess	580	845	1,425	436	30%	129	4.5	6.6	11.0
Dearborn	808	941	1,749	307	79%	244	3.3	3.9	7.2
Decatur	294	367	661	373	25%	93	3.2	3.9	7.1
Dekalb	1,131	1,362	2,493	364	28%	102	11.1	13.4	24.4
Delaware	463	515	978	396	16%	63	7.3	8.2	15.5
Dubois	885	1,182	2,067	435	54%	236	3.8	5.0	8.8
Elkhart	831	1,123	1,954	468	25%	117	7.1	9.6	16.7
Fayette	384	275	659	215	35%	75	5.1	3.7	8.8
Floyd	325	312	637	149	73%	109	3.0	2.9	5.8
Fountain	709	765	1,474	398	23%	91	7.8	8.4	16.2
Franklin	928	739	1,667	391	62%	243	3.8	3.0	6.9
Fulton	652	799	1,451	371	14%	52	12.5	15.4	27.9
Gibson	642	645	1,287	499	22%	111	5.8	5.8	11.6
Grant	536	531	1,067	415	13%	53	10.1	10.0	20.1
Greene	1,028	1,152	2,180	546	61%	332	3.1	3.5	6.6
Hamilton	260	314	574	402	13%	54	4.8	5.8	10.6
Hancock	188	193	381	307	10%	31	6.1	6.2	12.3
Harrison	1,241	1,362	2,603	486	75%	363	3.4	3.8	7.2
Hendricks	437	332	769	409	18%	72	6.1	4.6	10.7
Henry	415	382	797	395	18%	71	5.8	5.4	11.2
Howard	246	242	488	294	9%	26	9.5	9.3	18.8
Huntington	550	570	1,120	388	17%	66	8.3	8.6	17.0
Jackson	816	903	1,719	513	49%	250	3.3	3.6	6.9
Jasper	758	677	1,435	561	13%	75	10.1	9.0	19.1
Jay	635	700	1,335	384	13%	49	13.0	14.3	27.2
Jefferson	744	829	1,573	363	68%	248	3.0	3.3	6.3
Jennings	734	811	1,545	378	56%	210	3.5	3.9	7.4
Johnson	275	341	616	322	28%	89	3.1	3.8	6.9
Knox	553	504	1,057	524	16%	86	6.4	5.9	12.3
Kosciusko	1,099	1,405	2,504	554	22%	119	9.2	11.8	21.0
Lagrange	1,048	1,823	2,871	387	38%	148	7.1	12.3	19.4
Lake	574	817	1,391	626	16%	98	5.9	8.3	14.2
Laporte	944	1,125	2,069	613	28%	169	5.6	6.7	12.2

Table 3-4. Cont.

County	Antlered Harvest	Antlerless Harvest	Total Harvest	Square miles in county	Percent of Deer Habitat in County	Square miles of deer cover	Antlered harvest per square mile of deer cover	Doe Harvest per square mile of deer cover	Total harvest per square mile of deer cover
Lawrence	1,086	1,225	2,311	452	77%	347	3.1	3.5	6.7
Madison	374	358	732	453	13%	58	6.4	6.2	12.6
Marion	164	285	449	403	10%	42	3.9	6.8	10.7
Marshall	1,108	1,308	2,416	449	21%	97	11.4	13.5	24.9
Martin	805	930	1,735	340	77%	261	3.1	3.6	6.6
Miami	709	884	1,593	377	17%	64	11.1	13.8	24.9
Monroe	682	715	1,397	411	78%	319	2.1	2.2	4.4
Montgomery	585	573	1,158	505	13%	67	8.7	8.6	17.3
Morgan	682	779	1,461	409	53%	217	3.1	3.6	6.7
Newton	572	572	1,144	403	16%	65	8.8	8.8	17.6
Noble	1,136	1,545	2,681	417	30%	124	9.2	12.5	21.6
Ohio	243	209	452	87	83%	73	3.3	2.9	6.2
Orange	925	1,042	1,967	408	74%	303	3.1	3.4	6.5
Owen	904	1,018	1,922	387	73%	284	3.2	3.6	6.8
Parke	1,147	1,295	2,442	450	45%	204	5.6	6.3	12.0
Perry	903	928	1,831	386	83%	322	2.8	2.9	5.7
Pike	632	845	1,477	341	55%	189	3.3	4.5	7.8
Porter	363	543	906	522	24%	127	2.9	4.3	7.1
Posey	711	677	1,388	419	23%	98	7.3	6.9	14.2
Pulaski	1,050	1,132	2,182	434	15%	64	16.4	17.7	34.1
Putnam	1,226	1,142	2,368	483	44%	210	5.8	5.4	11.3
Randolph	451	453	904	453	11%	48	9.4	9.4	18.8
Ripley	645	688	1,333	448	56%	250	2.6	2.8	5.3
Rush	211	234	445	408	10%	42	5.0	5.6	10.6
Saint Joseph	683	833	1,516	461	20%	94	7.3	8.9	16.1
Scott	356	409	765	193	63%	121	2.9	3.4	6.3
Shelby	277	280	557	412	13%	56	4.9	5.0	9.9
Spencer	562	682	1,244	401	43%	174	3.2	3.9	7.1
Starke	857	955	1,812	312	29%	90	9.5	10.6	20.1
Steuben	1,388	1,873	3,261	322	41%	132	10.5	14.2	24.7
Sullivan	956	946	1,902	454	37%	167	5.7	5.7	11.4
Switzerland	722	806	1,528	224	84%	188	3.8	4.3	8.1
Tippecanoe	629	698	1,327	503	19%	96	6.6	7.3	13.8
Tipton	113	101	214	260	4%	9	12.6	11.2	23.8
Union	272	310	582	165	27%	44	6.2	7.0	13.2
Vanderburgh	303	460	763	236	29%	69	4.4	6.7	11.1
Vermillion	493	512	1,005	260	32%	84	5.9	6.1	12.0
Vigo	849	759	1,608	410	39%	158	5.4	4.8	10.2
Wabash	658	666	1,324	421	20%	84	7.8	7.9	15.8
Warren	674	651	1,325	366	21%	75	9.0	8.7	17.7
Warrick	620	589	1,209	391	54%	213	2.9	2.8	5.7
Washington	1,162	1,283	2,445	516	64%	332	3.5	3.9	7.4
Wayne	607	511	1,118	404	26%	106	5.7	4.8	10.5
Wells	420	394	814	370	9%	33	12.7	11.9	24.7
White	547	596	1,143	508	7%	35	15.6	17.0	32.7
Whitley	590	615	1,205	338	19%	63	9.4	9.8	19.1

Harvest per Hunter

Most hunters (70.7%, n=63,447) in Indiana harvested one deer during the 2024 deer season (Table 3-5). Only 0.66% (n=589) of hunters statewide harvested more than four deer in 2024, which is similar to the number (n=600) who harvested more than four deer in 2023.

Table 3-5. Number of deer harvested and percentage harvested by individual successful hunters during the 2023 and 2024 Indiana deer seasons. Reporting error rates: ±0.23% (2024) and ±0.24% (2023).

Number of Deer	2023 Hunters	2023 Percent of Total	2024 Hunters	2024 Percent of Total
1	62,000	71.4%	63,447	70.7%
2	17,905	20.6%	18,818	21.0%
3	5,182	6.0%	5,604	6.2%
4	1,134	1.3%	1,237	1.4%
5	394	0.5%	384	0.4%
6	114	0.1%	122	0.1%
7	58	0.1%	43	0.0%
8	17	0.0%	21	0.0%
9	8	0.0%	9	0.0%
10	4	0.0%	5	0.0%
11	2	0.0%	0	0.0%
12	1	0.0%	1	0.0%
13	1	0.0%	1	0.0%
14	0	0.0%	1	0.0%
15	0	0.0%	0	0.0%
16	1	0.0%	0	0.0%
17	0	0.0%	1	0.0%
18	0	0.0%	1	0.0%

Harvest by Equipment Type

Six types of equipment were legal for hunting deer during 2024 (Figure 3-4): archery (traditional and compound bows), crossbows, handguns, muzzleloaders, rifles, and shotguns. Harvest increased relative to 2023 for equipment types including muzzleloader (0.6%) and rifle (3.4%) (Table 3-6). The percentage of total harvest relative to 2023 decreased for bow and arrow (-1.1%), crossbow (-2.0%), and shotgun (-0.9%).

Figure 3-4. Percent harvest by equipment type, 2020-2024. Reporting error rates: ±0.23% (2024), ±0.24% (2023), ±0.19% (2022), ±0.20% (2021), and ±0.21% (2020).

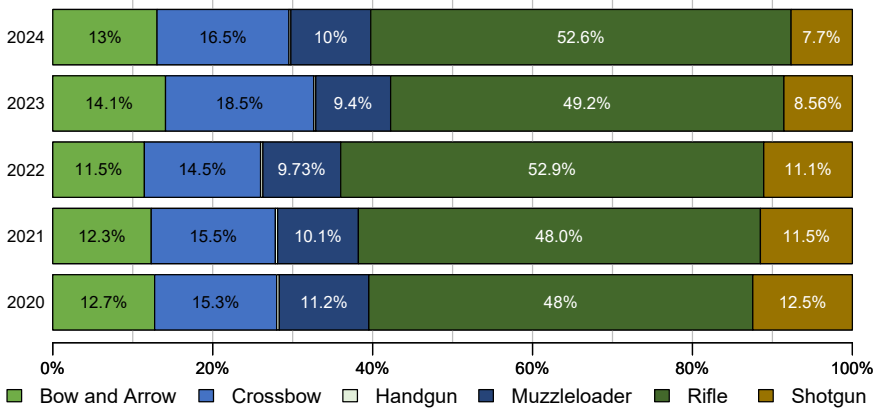


Table 3-6. Number of deer harvested by type of legal hunting equipment across seasons, 2020-2024. Values within this table do not exactly equal those tallied by season (Figure 3-4) because multiple equipment types can be used during the Firearms season. Reporting error rates: ±0.23% (2024), ±0.24% (2023), ±0.19% (2022), ±0.20% (2021), and ±0.21% (2020).

Equipment	2020	2021	2022	2023	2024
Bow and Arrow	15,819 (12.7%)	13,851 (12.3%)	13,957 (11.5%)	17,098 (14.1%)	16,452 (13.0%)
Crossbow	18,950 (15.3%)	17,462 (15.5%)	17,710 (14.5%)	22,490 (18.5%)	20,817 (16.5%)
Handgun	412 (0.3%)	322 (0.3%)	357 (0.3%)	298 (0.2%)	301 (0.2%)
Muzzleloader	13,906 (11.2%)	11,354 (10.1%)	11,853 (9.7%)	11,350 (9.4%)	12,601 (10.0%)
Rifle	59,630 (48.0%)	56,557 (50.3%)	64,471 (52.9%)	59,646 (49.2%)	66,329 (52.6%)
Shotgun	15,463 (12.5%)	12,935 (11.5%)	13,506 (11.1%)	10,381 (8.6%)	9,669 (7.7%)
Total	124,180	112,481	121,854	121,263	126,169

Harvest Age and Sex Structure

The age and sex structure of the 2024 deer harvest was 47% adult males, 44% adult females, and 8% male fawns (button bucks) (Table 3-7). Antlerless deer (does and button bucks) represent the highest proportion of the total deer harvest at 52% but dropped from an all-time high of 66% in 2012.

During opening weekend of Firearms season, DNR biologists have traditionally staffed check stations throughout the state to collect age-structure data and tissue samples for disease testing. Before the 2012 deer season, all deer had to be brought to a check station; therefore, age data collected during the opening weekend of Firearms season provided an unbiased method for determining the age structure of the harvest. All hunters had to check in deer online during the 2024 season; therefore, age estimates of adult deer, such as the proportion of yearling bucks in the harvest, became unreliable. Evaluation of the online check-in data for the opening weekend of Firearms season historically showed that hunters were more likely to report antlered bucks at check stations than online but were more likely to report button bucks online than at check stations, thus biasing estimates toward an older age structure than the actual harvest. Therefore, age class estimates of adult deer are unavailable until a valid, scientific method for correcting this bias is obtained.

Table 3-7. Number of deer harvested and percentage of total harvested by age and sex during the Indiana deer seasons from 1987-2024. Reporting error rate: ±0.23% (2024).

Year	Adult Males (%)	Adult Females (%)	Fawn Males (%)	Fawn Females (%)	Total
1987	29,530 (57%)	11,139 (21%)	6,164 (12%)	4,945 (10%)	51,778
1988	34,358 (57%)	13,170 (22%)	7,050 (12%)	5,656 (10%)	60,234
1989	40,503 (51%)	19,464 (24%)	10,737 (14%)	8,614 (11%)	79,318
1990	43,080 (48%)	23,680 (27%)	12,373 (14%)	9,630 (11%)	88,763
1991	41,593 (42%)	31,211 (32%)	14,626 (15%)	11,253 (11%)	98,683
1992	43,508 (46%)	25,387 (27%)	14,262 (15%)	12,157 (13%)	95,314
1993	44,424 (44%)	27,704 (27%)	14,751 (15%)	14,335 (14%)	101,214
1994	50,812 (45%)	32,466 (29%)	15,487 (14%)	13,651 (12%)	112,416
1995	47,098 (40%)	40,946 (35%)	16,398 (14%)	13,287 (11%)	117,729
1996	47,315 (38%)	39,913 (32%)	17,307 (14%)	18,551 (15%)	123,086
1997	42,537 (41%)	35,163 (34%)	14,039 (13%)	13,198 (12%)	104,937
1998	44,955 (45%)	30,711 (31%)	12,257 (12%)	12,538 (12%)	100,461
1999	46,371 (46%)	30,474 (31%)	11,645 (12%)	11,129 (11%)	99,618
2000	44,621 (45%)	31,986 (32%)	11,072 (11%)	11,046 (11%)	98,725
2001	48,357 (47%)	31,806 (31%)	11,230 (11%)	11,770 (11%)	103,163
2002	47,177 (45%)	35,357 (34%)	11,291 (11%)	10,603 (10%)	104,428
2003	49,533 (46%)	36,303 (34%)	10,262 (10%)	10,887 (10%)	106,986
2004	54,743 (44%)	41,749 (34%)	12,501 (10%)	14,065 (11%)	123,058
2005	52,488 (42%)	44,286 (35%)	13,030 (10%)	15,722 (13%)	125,526
2006	49,097 (39%)	45,257 (36%)	13,688 (11%)	17,339 (14%)	125,381
2007	49,375 (40%)	44,514 (36%)	13,313 (11%)	17,225 (14%)	124,427
2008	50,845 (39%)	46,666 (36%)	13,083 (11%)	19,154 (15%)	129,748
2009	52,878 (40%)	48,222 (36%)	13,040 (10%)	18,291 (14%)	132,431
2010	53,007 (40%)	49,911 (37%)	13,367 (10%)	17,719 (13%)	134,004
2011	50,717 (39%)	45,931 (36%)	13,058 (10%)	19,312 (15%)	129,018
2012	45,936 (34%)	54,983 (40%)	15,911 (12%)	19,418 (14%)	136,248
2013	46,240 (37%)	46,229 (37%)	14,100 (11%)	19,066 (15%)	125,635
2014	45,686 (38%)	46,760 (39%)	12,694 (11%)	14,933 (12%)	120,073
2015	51,075 (41%)	60,828 (49%)	12,765 (10%)	0	124,668
2016	51,646 (43%)	55,922 (47%)	11,774 (10%)	0	119,342
2017	44,884 (40%)	56,335 (50%)	12,167 (11%)	0	113,386
2018	47,256 (42%)	52,513 (47%)	11,483 (10%)	0	111,252
2019	51,646 (45%)	52,128 (45%)	11,108 (10%)	0	114,882
2020	55,446 (45%)	57,073 (46%)	11,661 (9%)	0	124,180
2021	53,751 (48%)	48,789 (43%)	9,941 (9%)	0	112,481
2022	58,552 (48%)	52,942 (43%)	10,360 (9%)	0	121,854
2023	58,220 (48%)	53,404 (44%)	9,639 (8%)	0	121,263
2024	59,643 (47%)	55,826 (44%)	10,700 (8%)	0	126,169

Public Lands Harvest

A total of 10,026 (a 3.4% increase from 2023) deer were harvested on public lands in Indiana during the 2024-2025 season, which resulted in 7.9% of the total deer harvest. Public lands included state Fish & Wildlife areas (FWAs), state nature preserves, state parks, state forests, national wildlife refuges, national forests, conservation areas, and military lands (Tables 3-8, 3-9, 3-10, and 3-11). Approximately 17.6% of the deer harvested on public lands were taken from the 24 FWAs. Pigeon River FWA had the largest harvest of 326 deer. Together, state park (14.1%) and state forest (11.3%) land contributed to 25.4% of the public lands harvest. Hoosier National

Forest accounted for 13.5% of the public lands harvest, while Atterbury Joint Manuever Training Center (JMTC) accounted for 2.9%. A total of 1,882 (18.8%) deer were harvested on public lands, but the specific property was not reported. The percentage of antlered (45.2%) and antlerless (54.8 %) deer harvested on public lands was similar to the composition of the total harvest (47.3% antlered, 52.7% antlerless).

Table 3-8. Deer harvested during the 2024-2025 deer hunting season on public lands managed by Indiana DNR Division of Fish & Wildlife. Reporting error rate: ±0.23% (2024). For lands >1 square mile, the harvest per square mile is reported.

Lands Managed by the Division of Fish & Wildlife	Antlered Deer Harvested	Button Bucks Harvested	Antlerless Deer Harvested	Total Deer Harvested	Square Miles of Property	Antlered Deer Harvested per Sq. Mile	Button Bucks Harvested per Sq. Mile	Antlerless Deer Harvested per Sq. Mile	Total Deer Harvested per Sq. Mile
FISH & WILDLIFE AREA	**841**	**216**	**705**	**1,762**	**222.3**	**3.8**	**1.0**	**3.2**	**7.9**
Atterbury	33	8	32	73	7.7	4.3	1.0	4.1	9.4
Blue Grass	7	1	1	9	4.0	1.8	0.3	0.3	2.3
Chinook	7	1	1	9	3.4	2.1	0.3	0.3	2.6
Crosley	21	1	8	30	6.7	3.1	0.1	1.2	4.5
Deer Creek	7	1	7	15	3.4	2.1	0.3	2.1	4.5
Fairbanks Landing	48	5	27	80	12.1	4.0	0.4	2.2	6.6
Glendale	40	13	45	98	12.9	3.1	1.0	3.5	7.6
Goose Pond	22	3	22	47	14.1	1.6	0.2	1.6	3.3
Hillenbrand	14	0	13	27	5.6	2.5	0.0	2.3	4.8
Hovey Lake	35	5	24	64	11.6	3.0	0.4	2.1	5.5
J.E. Roush Lake	50	25	45	120	13.4	3.7	1.9	3.4	8.9
Jasper Pulaski	75	9	48	132	12.8	5.9	0.7	3.8	10.3
Kankakee	13	3	12	28	7.0	1.9	0.4	1.7	4.0
Kankakee Sands (TNC)	26	0	12	38	13.1	2.0	0.0	0.9	2.9
Kingsbury	53	20	55	128	11.7	4.5	1.7	4.7	10.9
Lasalle	44	9	36	89	7.0	6.2	1.3	5.1	12.6
Pigeon River	104	68	154	326	18.4	5.6	3.7	8.4	17.7
Splinter Ridge	13	3	4	20	4.7	2.8	0.6	0.9	4.3
Stucker Fork	0	0	0	0	3.8	0.0	0.0	0.0	0.0
Sugar Ridge	34	4	21	59	13.0	2.6	0.3	1.6	4.5
Tri-County	19	11	17	47	5.6	3.4	2.0	3.0	8.4
Wabashiki	32	1	11	44	5.5	5.8	0.2	2.0	8.0
Wilbur Wright	11	2	8	21	1.7	6.5	1.2	4.7	12.4
Willow Slough	66	7	62	135	15.6	4.2	0.4	4.0	8.7
Winamac	67	16	40	123	7.6	8.8	2.1	5.3	16.2
CONSERVATION AREA	**32**	**4**	**13**	**49**	**6.2**	**5.2**	**0.6**	**2.1**	**8.0**
Sugar Creek	9	1	5	15	1.8	5.1	0.6	2.8	8.5
Wabash River	23	3	8	34	4.4	5.2	0.7	1.8	7.7
GAMEBIRD HABITAT AREA	**16**	**5**	**13**	**34**	**7.3**	**2.2**	**0.7**	**1.8**	**4.7**
Cartmell	1	0	0	1	2.1	0.5	0.0	0.0	0.5
Goose Creek	0	0	1	1	0.6				
Hufford	5	2	8	15	0.2				
Mcclellan	1	0	0	1	0.2				
Mcginnis Lauerman	2	0	0	2	0.1				
Mud Pine	2	0	0	2	0.2				
Pine Creek	2	0	1	3	1.1	1.8	0.0	0.9	2.8
Place Trail	0	0	1	1	0.6				
Pointer Ridge	1	0	0	1	0.1				
Reynolds Creek	0	3	2	5	2.1	0.0	1.4	1.0	2.4
Vinyard	2	0	0	2	0.2				

Table 3-8 cont.

Lands Managed by the Division of Fish & Wildlife	Antlered Deer Harvested	Button Bucks Harvested	Antlerless Deer Harvested	Total Deer Harvested	Square Miles of Property	Antlered Deer Harvested per Sq. Mile	Button Bucks Harvested per Sq. Mile	Antlerless Deer Harvested per Sq. Mile	Total Deer Harvested per Sq. Mile
PUBLIC FISHING AREA	**2**	**0**	**3**	**5**	**0.2**				
Green Valley	2	0	3	5	0.2				
WETLAND CONSERVATION AREA	**87**	**24**	**74**	**185**	**53.7**	**1.6**	**0.4**	**1.4**	**3.4**
Aukiki	1	0	2	3	0.7				
Austin Bottoms	16	1	6	23	40.6	0.4	0.0	0.1	0.6
Barnes Seng	0	0	1	1	0.3				
Cedar Swamp	11	3	12	26	1.4	7.7	2.1	8.4	18.2
Curtis Lake	4	0	1	5	0.1				
Dick Blythe	4	1	5	10	0.3				
Durham Lake	0	0	1	1	0.8				
Fish Lake	4	2	0	6	0.4				
Galena	3	0	0	3	0.3				
Koontz Lake	1	0	0	1	0.1				
Lake Maxinkuckee	0	0	1	1	0.1				
Little Pigeon Creek	10	0	1	11	1.6	6.2	0.0	0.6	6.8
Lost Hill	2	0	0	2	0.6				
Mallard Roost	5	4	7	16	1.2	4.2	3.4	5.9	13.5
Manitou Lake Islands	0	0	1	1	0.3				
Marsh Lake	8	3	8	19	1.2	6.7	2.5	6.7	15.8
Menominee	12	3	14	29	1.5	8.0	2.0	9.4	19.4
Province Pond	0	1	1	2	0.3				
Rome City	0	0	1	1	0.1				
Swamper Bend	1	0	3	4	0.2				
Tern Bar Slough	2	4	7	13	1.3	1.5	3.0	5.3	9.9
Turkey Foot	1	1	1	3	0.2				
Whirledge	2	1	1	4	0.1				
WILDLIFE MANAGEMENT AREA	**48**	**8**	**32**	**88**	**3.1**	**15.7**	**2.6**	**10.5**	**28.8**
Ashcraft	2	0	2	4	0.1				
Driftwood	3	0	0	3					
Elk Creek	3	2	4	9					
Hindostan	3	1	1	5					
Horseshoe Bend	6	2	2	10					
Howat 80	1	0	2	3	0.1				
Huston Ditch	1	0	3	4					
Morgan Bluff	1	0	0	1	0.7				
Oak Grove	6	0	2	8	0.1				
Pisgah Marsh	0	0	2	2					
Randolph County	6	2	4	12	0.9				
Straight Line Slough	3	0	1	4					
White Oak	1	0	2	3					
White River Bend	12	1	7	20	1.1	10.8	0.9	6.3	18.0
RESOURCE AREA	**2**	**1**	**3**	**6**	**0.6**				
Deniston	2	1	3	6	0.6				

Table 3-9. Deer harvested during the 2024-2025 deer hunting season on public lands managed by Indiana DNR Division of State Parks. Deer harvested in state parks were taken during special state park management draw hunts. Reporting error rate: ±0.23% (2024).

Property	Antlered Deer Harvested	Button Bucks Harvested	Antlerless Deer Harvested	Total Deer Harvested	Approximate Square Miles of Property	Antlered Deer Harvested per Square Mile	Button Bucks Harvested per Square Mile	Antlerless Deer Harvested per Square Mile	Total Deer Harvested per Square Miles
STATE PARKS	**539**	**236**	**643**	**1,418**	**107.2**	**5.0**	**2.2**	**6.0**	**13.2**
Brown County	76	20	63	159	25.0	3.0	0.8	2.5	6.4
Chain O'Lakes	30	22	40	92	4.2	7.1	5.2	9.4	21.7
Charlestown	40	10	38	88	8.0	5.0	1.3	4.8	11.0
Clifty Falls	7	4	9	20	2.4	2.9	1.7	3.8	8.4
Fort Harrison	10	5	23	38	2.7	3.8	1.9	8.7	14.3
Harmonie	35	6	34	75	5.4	6.5	1.1	6.3	13.9
Indiana Dunes	0	0	0	0	3.4	0.0	0.0	0.0	0.0
Lincoln	20	8	23	51	3.4	5.9	2.3	6.7	15.0
McCormick's Creek	12	3	15	30	2.7	4.4	1.1	5.5	11.0
O'Bannon Woods	21	7	29	57	3.0	7.0	2.3	9.7	19.0
Ouabache	21	19	27	67	3.6	5.8	5.3	7.5	18.7
Pokagon	19	10	22	51	1.7	11.0	5.8	12.8	29.6
Potato Creek	39	25	63	127	2.0	19.5	12.5	31.5	63.5
Prophetstown	8	6	3	17	3.8	2.1	1.6	0.8	4.5
Shades	33	6	35	74	3.1	10.6	1.9	11.2	23.7
Shakamak	6	4	3	13	4.8	1.2	0.8	0.6	2.7
Spring Mill	14	8	22	44	4.3	3.2	1.9	5.1	10.2
Summit Lake	21	17	32	70	2.1	9.9	8.0	15.1	33.0
Tippecanoe River	54	23	54	131	4.1	13.2	5.6	13.2	32.0
Turkey Run	16	6	31	53	4.3	3.7	1.4	7.2	12.3
Versailles	38	16	50	104	3.7	10.2	4.3	13.4	27.9
Whitewater Memorial	19	11	27	57	9.4	2.0	1.2	2.9	6.1
NATURAL AREA	**9**	**3**	**17**	**29**	**0.5**	**18.2**	**6.1**	**34.4**	**58.7**
Cave River Valley	9	3	17	29	0.5	18.2	6.1	34.4	58.7
STATE RECREATION AREA	**55**	**9**	**56**	**120**	**27.3**	**2.0**	**0.3**	**2.1**	**4.4**
Deam Lake	4	1	3	8	2.0	2.0	0.5	1.5	3.9
Interlake	17	1	19	37	5.5	3.1	0.2	3.4	6.7
Lieber (Cagles Mill Lake)	18	4	18	40	12.6	1.4	0.3	1.4	3.2
Raccoon Lake	13	3	13	29	6.4	2.0	0.5	2.0	4.6
Starve Hollow	2	0	1	3	0.4	4.6	0.0	2.3	6.9
Trine	1	0	2	3	0.3	3.3	0.0	6.7	10.0
STATE RESERVOIRS	**55**	**9**	**56**	**120**	**91.3**	**0.6**	**0.1**	**0.6**	**1.3**
Brookville Lake	66	32	88	186	9.0	7.3	3.6	9.8	20.7
Hardy Lake	5	3	6	14	2.7	1.9	1.1	2.2	5.2
Mississinewa Lake	97	70	120	287	17.5	5.5	4.0	6.9	16.4
Monroe Lake	36	4	45	85	20.6	1.7	0.2	2.2	4.1
Patoka Lake	94	13	58	165	26.9	3.5	0.5	2.2	6.1
Salamonie Lake	56	19	47	122	14.6	3.8	1.3	3.2	8.4

Table 3-10. Deer harvested during the 2024-2025 deer hunting season on public lands managed by Indiana DNR divisions of Forestry and Nature Preserves. Reporting error rate: ±0.23% (2024). For lands >1 square mile, the harvest per square mile is reported.

Property	Antlered Deer Harvested	Button Bucks Harvested	Antlerless Deer Harvested	Total Deer Harvested	Approximate Square Miles of Property	Antlered Deer Harvested per Square Mile	Button Bucks Harvested per Square Mile	Antlerless Deer Harvested per Square Mile	Total Deer Harvested per Square Mile
STATE FORESTS	**533**	**103**	**483**	**1,119**	**238.9**	**2.2**	**0.4**	**2.0**	**4.7**
Clark	50	7	43	100	40.0	1.3	0.2	1.1	2.5
Ferdinand	10	4	17	31	12.0	0.8	0.3	1.4	2.6
Frances Slocum	4	1	3	8	0.8	5.0	1.2	3.7	9.9
Greene-Sullivan	36	6	35	77	14.1	2.6	0.4	2.5	5.5
Harrison-Crawford	106	18	106	230	37.5	2.8	0.5	2.8	6.1
Jackson-Washington	69	14	65	148	28.1	2.5	0.5	2.3	5.3
Martin	46	11	53	110	11.0	4.2	1.0	4.8	10.0
Morgan-Monroe	73	17	59	149	38.3	1.9	0.4	1.5	3.9
Owen-Putnam	26	9	15	50	10.4	2.5	0.9	1.4	4.8
Pike	20	1	9	30	6.9	2.9	0.1	1.3	4.3
Salamonie River	16	2	9	27	1.5	10.7	1.3	6.0	18.1
Selmier	2	0	2	4	0.6	3.6	0.0	3.6	7.2
Yellowwood	75	13	67	155	37.8	2.0	0.3	1.8	4.1
NATURE PRESERVES	**33**	**6**	**21**	**60**	**3.8**	**8.6**	**1.6**	**5.5**	**15.7**
Beaver Lake	2	1	1	4	0.3				
Bob Kern	1	1	2	4	0.5				
Conrad Savanna	11	1	1	13	0.6				
Hoosier Prairie	1	0	1	2	0.7				
Judy Burton	2	1	0	3	0.2				
Round Lake Wetland	0	0	0	0	0.2				
Section Six Southern Flatwoods	14	1	14	29	0.6				
Shrader Weaver	1	0	0	1	0.2				
Wabash Lowlands	1	1	2	4	0.7				

Table 3-11. Deer harvested during the 2024-2025 deer hunting season on public lands managed by federal agencies. Special draw hunts were held on the military lands and national wildlife refuge properties. Reporting error rate: ±0.23% (2024).

Property	Antlered Deer Harvested	Button Bucks Harvested	Antlerless Deer Harvested	Total Deer Harvested	Approximate Square Miles of Property	Antlered Deer Harvested per Square Mile	Button Bucks Harvested per Square Mile	Antlerless Deer Harvested per Square Mile	Total Deer Harvested per Square Mile
MILITARY LANDS	**268**	**48**	**275**	**591**	**153.0**	**1.8**	**0.3**	**1.8**	**3.9**
Atterbury JMTC	86	36	174	296	52.3	1.6	0.7	3.3	5.7
Crane NSA	182	12	101	295	100.7	1.8	0.1	1.0	2.9
NATIONAL FORESTS	**618**	**156**	**584**	**1,358**	**319.2**	**1.9**	**0.5**	**1.8**	**4.3**
Hoosier	618	156	584	1,358	319.2	1.9	0.5	1.8	4.3
NATIONAL WILDLIFE REFUGE	**261**	**39**	**152**	**452**	**127.6**	**2.0**	**0.3**	**1.2**	**3.5**
Big Oaks	219	28	114	361	78.1	2.8	0.4	1.5	4.6
Muscatatuck	10	2	8	20	12.1	0.8	0.2	0.7	1.7
Patoka River	32	9	30	71	37.4	0.9	0.2	0.8	1.9

Deer Reduction Zones Harvest

Indiana Deer Reduction Zones (DRZs) are designated to target areas in the state that have high deer populations coupled with high human density, where the cultural carrying capacity has been exceeded due to concerns over local ecology, deer-vehicle collisions, or the amount of damage to personal property. DRZs aim to reduce deer-human conflict in these areas rather than to eliminate the deer population. Hunters may harvest up to 10 deer in the DRZs, 10 antlerless deer or nine antlerless deer, and one antlered deer after first harvesting an antlerless deer (earn-a-buck). An interactive map of the current DRZs along with information and a video about how DRZs are developed can be found at wildlife.IN.gov/wildlife-resources/animals/white-tailed-deer/deer-reduction-zones/.

Approximately 4,734 deer were harvested in DRZs in 2024 (Table 3-12), a 12.3% decrease from 2023. These deer were harvested within a DRZ county using a valid license type for DRZs (DRZ license, lifetime license, youth license, or landowner or military exemptions) and were marked that they applied to the "zone bag limit" in the CheckIN Game system. Deer harvested on any other license type within the boundaries of a DRZ counted toward the statewide bag limit.

In 2024, antlerless deer made up 82.7% of the DRZ harvest. The percentage of the statewide antlerless harvest that was taken in a DRZ was lower in 2024 (3.8%) compared to 2023 (4.5%). A total of 820 antlered deer were taken in DRZs in 2024, which accounted for 1.4% of the statewide antlered harvest. Deer taken within a DRZ accounted for between 2.5% and 60.6% of each DRZ county's total harvest (Table 3-13).

Table 3-12. Number of antlered, antlerless, and total deer harvested within Deer Reduction Zones in 2022, 2023, and 2024. Reporting error rates: ±0.23% (2024), ±0.24% (2023), ±0.19% (2022), ±0.20% (2021), and ±0.21% (2020).

County	2022 Antlered	2022 Antlerless	2022 Total	2023 Antlered	2023 Antlerless	2023 Total	2024 Antlered	2024 Antlerless	2024 Total
Allen	97	409	506	121	441	562	65	307	372
Boone	5	18	23	5	18	23	2	15	17
Brown	14	97	111	15	101	116	12	89	101
Dearborn	30	153	183	20	157	177	24	168	192
Dekalb	28	84	112	24	101	125	30	112	142
Delaware	13	48	61	12	48	60	14	66	80
Elkhart	26	103	129	25	125	150	32	139	171
Fulton	6	46	52	6	40	46	6	31	37
Hamilton	33	152	185	43	131	174	36	140	176
Hendricks	13	56	69	20	43	63	17	54	71
Johnson	4	21	25	11	30	41	10	37	47
Kosciusko	46	203	249	39	198	237	45	196	241
Lagrange	32	174	206	39	210	249	38	244	282
Lake	122	530	652	142	537	679	102	480	582
Laporte	60	222	282	54	255	309	54	261	315
Madison	2	23	25	3	21	24	4	24	28
Marion	65	244	309	62	217	279	58	214	272
Monroe	12	60	72	13	46	59	13	38	51
Morgan	35	124	159	34	136	170	30	169	199
Porter	125	568	693	139	624	763	51	302	353
Saint Joseph	36	155	191	37	140	177	39	162	201
Steuben	53	237	290	49	253	302	37	197	234
Tippecanoe	20	83	103	20	58	78	22	82	104
Vanderburgh	60	274	334	71	322	393	67	299	366
Wabash	12	40	52	16	40	56	6	38	44
Warrick	14	48	62	16	69	85	6	50	56
Total	**963**	**4,172**	**5,135**	**1,036**	**4,361**	**5,397**	**820**	**3,914**	**4,734**
% Of Statewide Harvest Totals	**1.9%**	**6.6%**	**4.5%**	**1.9%**	**6.3%**	**4.3%**	**1.5%**	**6.7%**	**4.2%**

Table 3-13. Percentage of each Deer Reduction Zone (DRZ) county's total deer harvest that was counted as deer harvested in the DRZ in 2024. DRZ deer were defined as deer harvested within a DRZ county using a valid license type (DRZ license, lifetime license, youth license, or landowner or military exemptions) and indicated as counting toward the zone bag limit in the CheckIN Game system. Reporting error rate: ±0.23% (2024).

County	2024 Total DRZ Deer Harvest	2024 DRZ Antlered Harvest	2024 DRZ Antlerless Harvest	2024 Total County Harvest	% of total county harvest from DRZ	% of County Antlered Harvest from DRZ	% of County Antlerless Harvest from DRZ	DRZ size (sq. mile)	Total DRZ Harvest per square mile
Allen	372	65	307	1,606	23.2%	8.6%	36.1%	258.4	1.4
Boone	17	2	15	541	3.1%	0.7%	5.9%	24.4	0.7
Brown	101	12	89	1,490	6.8%	1.9%	10.4%	21.6	4.7
Dearborn	192	24	168	1,749	11.0%	3.0%	17.9%	32.1	6.0
Dekalb	142	30	112	2,493	5.7%	2.7%	8.2%	18.7	7.6
Delaware	80	14	66	978	8.2%	3.0%	12.8%	61.5	1.3
Elkhart	171	32	139	1,954	8.8%	3.9%	12.4%	74.9	2.3
Fulton	37	6	31	1,451	2.5%	0.9%	3.9%	8.3	4.5
Hamilton	176	36	140	574	30.7%	13.8%	44.6%	202.4	0.9
Hendricks	71	17	54	769	9.2%	3.9%	16.3%	70.1	1.0
Johnson	47	10	37	616	7.6%	3.6%	10.9%	57.7	0.8
Kosciusko	241	45	196	2,504	9.6%	4.1%	14.0%	57.4	4.2
Lagrange	282	38	244	2,871	9.8%	3.6%	13.4%	28.5	9.9
Lake	582	102	480	1,391	41.8%	17.8%	58.8%	360.4	1.6
Laporte	315	54	261	2,069	15.2%	5.7%	23.2%	99.6	3.2
Madison	28	4	24	732	3.8%	1.1%	6.7%	18.2	1.5
Marion	272	58	214	449	60.6%	35.4%	75.1%	402.6	0.7
Monroe	51	13	38	1,397	3.7%	1.9%	5.3%	10.9	4.7
Morgan	199	30	169	1,461	13.6%	4.4%	21.7%	77.8	2.6
Porter	353	51	302	906	39.0%	14.0%	55.6%	254.1	1.4
Saint Joseph	201	39	162	1,516	13.3%	5.7%	19.4%	131.1	1.5
Steuben	234	37	197	3,261	7.2%	2.7%	10.5%	35.4	6.6
Tippecanoe	104	22	82	1,327	7.8%	3.5%	11.7%	73.9	1.4
Vanderburgh	366	67	299	763	48.0%	22.1%	65.0%	135.5	2.7
Wabash	44	6	38	1,324	3.3%	0.9%	5.7%	8.1	5.4
Warrick	56	6	50	1,209	4.6%	1.0%	8.5%	49.2	1.1

Harvest by License Status

In 2024, 128,732 individual hunters purchased an annual deer hunting license of some kind. This was slightly lower than the 128,750 individuals who purchased an annual deer hunting license in 2023. Resident hunters harvested 95.0% of the total deer harvested in Indiana in 2024, while nonresidents harvested 5.0% of the total (Table 3-14). Annual license holders (license types purchased every year) harvested 74.0% of the total deer. Lifetime license holders harvested 14.1%, and landowner-exempt hunters (landowners and lessees who hunted on their own land without a license) harvested 11.7% of deer in 2024. A large percentage of deer were harvested using a deer license bundle (44.4% resident deer bundle, 1.6% nonresident deer bundle).

Table 3-14. Number of deer harvested by resident and nonresident license types during the 2024 deer hunting season. Reporting error rate: ±0.24% (2024).

License Type	Resident Harvest	Non-Resident Harvest	Total	% Resident Harvest	% Non-Resident Harvest
Bonus Antlerless	3,138	204	3,342	2.5%	0.2%
Deer Archery	2,321	685	3,006	1.8%	0.5%
Deer Bundle	56,065	1,970	58,035	44.4%	1.6%
Deer Crossbow	2,076	427	2,503	1.7%	0.3%
Deer Firearms	6,267	1,880	8,147	5.0%	1.5%
Deer Military/Refuge	536	17	553	0.4%	0.0%
Deer Muzzleloader	584	84	668	0.5%	0.1%
Deer Reduction Zone	2,930	53	2,983	2.3%	0.0%
Early State Park Reduction	839	0	839	0.7%	0.0%
Landowner Exemption	14,155	584	14,739	11.2%	0.5%
Late State Park Reduction	484	3	487	0.4%	0.0%
Lifetime License	17,437	320	17,757	13.8%	0.3%
Military Exempt - IC 14-22-11-11	81	2	83	0.1%	0.0%
Youth Free Hunt Days	165	2	167	0.1%	0.0%
Youth Hunt/Trap	12,796	64	12,860	10.1%	0.1%
Total	**119,874**	**6,295**	**126,169**	**95.0%**	**5.0%**

Deer License Sales

The number of deer licenses sold in 2024 decreased by less than 1% from 2023 (Table 3-15). The number of privileges (number of deer legally allowed to be harvested, excluding those harvested by youth) was less than 1% greater than in 2023. Each deer license bundle included three deer privileges.

Table 3-15. Deer license sales in Indiana by license type, 2015-2024. Total license sale numbers are subject to change slightly as refunds or voids are made.

License Type	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Resident Deer License Bundle	65,603	68,997	67,731	67,963	69,683	79,881	80,974	73,330	76,449	77,595
Resident Archery/ Crossbow/ Reduction Zone	29,258	24,796	25,044	24,794	24,512	25,380	22,801	24,134	25,933	24,242
Resident Firearm	43,991	40,577	37,254	34,575	29,627	26,671	24,265	26,177	26,279	25,269
Resident Muzzleloader	6,088	4,669	4,376	3,898	3,607	3,715	2,902	2,759	2,608	2,503
Resident Military/Refuge	1,276	1,343	1,355	1,611	1,613	1,081	1,504	1,514	1,757	1,751
Resident Bonus Antlerless	21,088	18,065	16,188	13,866	15,149	14,378	11,267	10,053	9,972	9,987
Nonresident	10,165	10,493	10,796	10,773	10,989	11,813	12,348	10,652	11,007	11,663
Youth	34,529	33,900	31,378	29,273	28,073	31,285	30,276	29,165	30,732	19,108
Total Licenses (Excluding Resident Youth)	**177,469**	**168,940**	**162,744**	**157,480**	**155,180**	**162,919**	**156,061**	**148,619**	**154,005**	**153,010**
Total Privileges (Excluding Resident Youth)	**294,296**	**296,286**	**289,411**	**286,561**	**286,897**	**317,249**	**316,539**	**290,352**	**301,914**	**303,467**

County Bonus Antlerless Quotas and Deer Population Indices

In 2024, Indiana DNR maintained county bonus antlerless quotas (CBAQ) of three or fewer in all counties (Table 3-16, Figure 3-5). Because Special Antlerless Firearms season is only open in counties with a CBAQ of four or more, the Special Antlerless Firearms season was closed in all counties. The number of antlerless deer harvested in each county can be found at wildlife.IN.gov/wildlife-resources/animals/white-tailed-deer/deer-harvest-data/.

Since 2012, CBAQs have been gradually lowered across the state as the deer-management goals of DNR have shifted from that of herd reduction to population maintenance. This approach, integrated with strategic harvest in Deer Reduction Zones (DRZ), has been adopted to provide a healthy deer population across the state while addressing human safety concerns along roadways that have historically experienced high levels of deer-vehicle collisions (DVC). CBAQs should be maintained at current levels if harvest remains steady, unless population indices indicate that adjustments are necessary to increase or reduce local deer harvest in a county. Because of a rule change that went into effect in January 2025, this is the last year the CBAQ will be used. Starting in the 2025-2026 hunting season, the number of antlerless deer that can be harvested will be based on individual county bag limits.

The DNR deer program, private lands biologists, and conservation officers have worked collectively to analyze trends in deer population and public opinion indices every year to determine whether CBAQs should be adjusted. The following population and public opinion indices are gathered through the Deer Management Survey (see Chapter 7), harvest reports, and public comment and were used in CBAQ evaluations: annual deer harvest, hunter success rate, hunter effort, Archer's Index deer observations, DVC rates, public opinion on deer population size, and public desire for changes in populations. Because these data sources are not true measurements but rather indices of the deer population, trends in these data over time were weighed and collectively informed the final decision of DNR when setting CBAQs for the fall deer season.

In July of 2024, the Indiana Department of Natural Resources began receiving reports about deer dying in Wabash County. Initial testing attributed this to EHD. Over time, reports of dead deer expanded to Allen, Porter, Wabash, Steuben, Noble, Kosciusko, Huntington, Miami, Lake, and LaPorte counties, with scattered reports also coming in from other counties in the northern third of the state. As of Sept. 11, 2024, it appeared that a significant EHD event was affecting Allen, Porter, and Wabash counties. While this outbreak was severe, DNR expected it to be less impactful than the 2022 outbreak in Franklin, Fayette, and surrounding counties in southern Indiana. Therefore, DNR lowered the CBAQs in those counties from two to one, resulting in an overall decrease in the antlerless bag limit (i.e., archery + muzzleloader + bonus antlerless deer) from 5 to 4. This reduction did not affect the deer reduction zones in Allen and Porter counties.

Indiana DNR analyzes deer data on a regional scale based on Deer Management Units (DMUs; Figure 3-6). DMUs are defined groupings of counties based on similar characteristics such as habitat, hunter density, and urban development. Trends in a DMU's indices influence the CBAQs for the counties within it. DMU-specific data is available in Appendix A: DMU Deer Data Sheets 2024. County-specific data referenced below is available on the Indiana DNR Deer Data Dashboard at https://www.in.gov/dnr/fish-and-wildlife/wildlife-resources/animals/white-tailed-deer/county-data/.

Table 3-16. Indiana County Bonus Antlerless Quotas (CBAQ), 2019-2024. The CBAQ in Allen, Porter, and Wabash counties was lowered from two to one to offset the effect of epizootic hemorrhagic disease (EHD) in the summer of 2024.

County	2019 preEHD	2019 EHDChg	2020	2021	2022 preEHD	2022 EHDChg	2023	2024 preEHD	2024 EHDChg
Adams	1	1	1	1	1	1	1	1	1
Allen	2	2	2	2	2	2	2	2	1
Bartholomew	2	2	2	2	2	2	2	2	2
Benton	A	A	A	A	1	1	1	1	1
Blackford	1	1	1	1	1	1	1	1	1
Boone	2	2	2	2	2	2	2	2	2
Brown	4	2	3	3	2	2	3	3	3
Carroll	2	2	2	2	2	2	2	2	2
Cass	2	2	2	2	2	2	2	2	2
Clark	4	2	2	2	2	2	3	3	3
Clay	3	2	2	2	2	2	3	3	3
Clinton	2	2	2	2	2	2	2	2	2
Crawford	4	2	2	2	2	2	3	3	3
Daviess	1	1	2	2	2	2	2	2	2
Dearborn	3	2	2	2	2	2	1	1	1
Decatur	2	2	2	2	2	2	2	2	2
Dekalb	2	2	2	2	2	2	2	2	2
Delaware	2	2	2	2	2	2	2	2	2
Dubois	2	2	2	2	2	2	2	2	2
Elkhart	2	2	2	2	2	2	2	2	2
Fayette	2	2	2	2	2	1	0	1	1
Floyd	4	2	2	2	2	2	3	3	3
Fountain	2	2	2	2	2	2	2	2	2
Franklin	4	2	3	2	2	1	0	1	1
Fulton	2	2	2	2	2	2	2	2	2
Gibson	2	2	2	2	2	2	2	2	2
Grant	2	2	2	2	2	2	2	2	2
Greene	4	2	2	2	2	2	3	3	3
Hamilton	2	2	2	2	2	2	2	2	2
Hancock	1	1	1	1	2	2	2	2	2
Harrison	4	2	2	2	2	2	3	3	3
Hendricks	2	2	2	2	2	2	2	2	2
Henry	2	2	2	2	2	2	1	1	1
Howard	2	2	2	2	2	2	2	2	2
Huntington	2	2	2	2	2	2	2	2	2
Jackson	4	2	3	3	2	2	3	3	3
Jasper	2	2	2	2	2	2	2	2	2
Jay	1	1	1	1	1	1	1	1	1
Jefferson	4	2	2	2	2	2	3	3	3
Jennings	4	2	2	2	2	2	2	2	2
Johnson	2	2	2	2	2	2	2	2	2
Knox	2	2	2	2	2	2	2	2	2
Kosciusko	2	2	2	2	2	2	2	2	2
Lagrange	1	1	1	2	2	2	3	3	3
Lake	2	2	2	2	2	2	2	2	2
LaPorte	2	2	2	2	2	2	2	2	2

County	2019 preEHD	2019 EHDChg	2020	2021	2022 preEHD	2022 EHDChg	2023	2024 preEHD	2024 EHDChg
Lawrence	4	2	3	3	2	2	3	3	3
Madison	2	2	2	2	2	2	2	2	2
Marion	2	2	2	2	2	2	2	2	2
Marshall	2	2	2	2	2	2	2	2	2
Martin	4	2	3	3	2	2	3	3	3
Miami	2	2	2	2	2	2	2	2	2
Monroe	4	2	3	3	2	2	3	3	3
Montgomery	2	2	2	2	2	2	2	2	2
Morgan	3	2	3	3	2	2	3	3	3
Newton	2	2	2	2	2	2	2	2	2
Noble	2	2	2	2	2	2	3	3	3
Ohio	2	2	2	2	2	2	1	1	1
Orange	4	2	3	3	2	2	3	3	3
Owen	4	2	2	2	2	2	3	3	3
Parke	3	2	2	2	2	2	3	3	3
Perry	4	2	2	2	2	2	3	3	3
Pike	2	2	2	2	2	2	2	2	2
Porter	2	2	2	2	2	2	2	2	1
Posey	1	1	2	2	2	2	2	2	2
Pulaski	2	2	2	2	2	2	2	2	2
Putnam	3	2	2	2	2	2	3	3	3
Randolph	1	1	1	1	2	2	2	2	2
Ripley	4	2	3	2	2	2	1	1	1
Rush	1	1	1	1	2	2	2	2	2
Saint Joseph	2	2	2	2	2	2	3	3	3
Scott	4	2	2	2	2	2	2	2	2
Shelby	2	2	2	2	2	2	2	2	2
Spencer	2	2	2	2	2	2	2	2	2
Starke	2	2	2	2	2	2	2	2	2
Steuben	1	1	1	2	2	2	3	3	3
Sullivan	3	2	2	2	2	2	3	3	3
Switzerland	2	2	2	2	2	2	2	2	2
Tippecanoe	2	2	2	2	2	2	2	2	2
Tipton	A	A	A	A	1	1	1	1	1
Union	2	2	2	2	2	1	1	1	1
Vanderburgh	2	2	2	2	2	2	2	2	2
Vermillion	3	2	2	2	2	2	3	3	3
Vigo	3	2	2	2	2	2	3	3	3
Wabash	2	2	2	2	2	2	2	2	1
Warren	2	2	2	2	2	2	2	2	2
Warrick	2	2	2	2	2	2	2	2	2
Washington	4	2	2	2	2	2	3	3	3
Wayne	2	2	2	2	2	1	1	1	1
Wells	A	A	1	1	1	1	1	1	1
White	2	2	2	2	2	2	2	2	2
Whitley	1	1	1	1	2	2	2	2	2

Figure 3-5. The County Bonus Antlerless Quotas for the 2024-2025 Indiana deer hunting season.

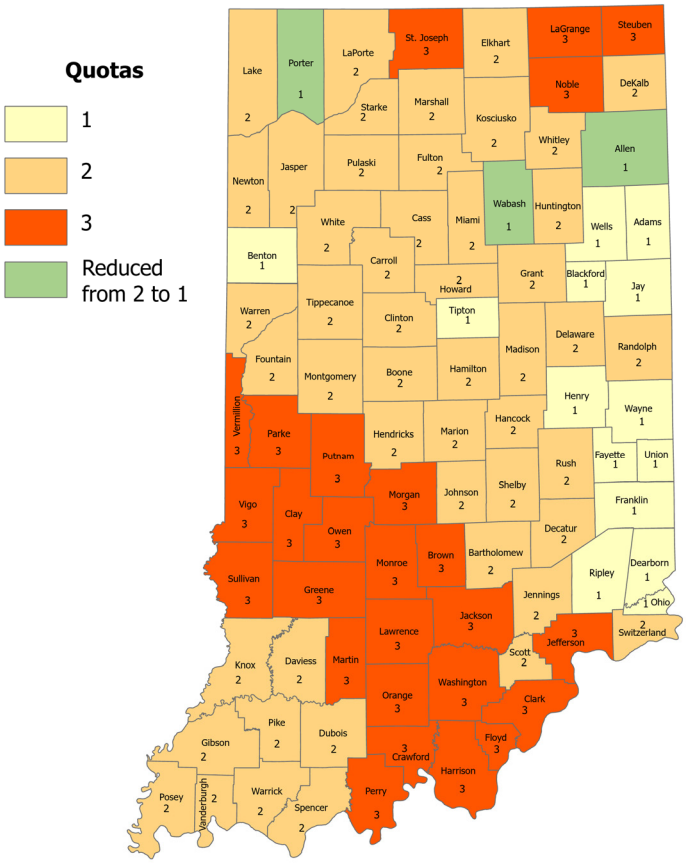
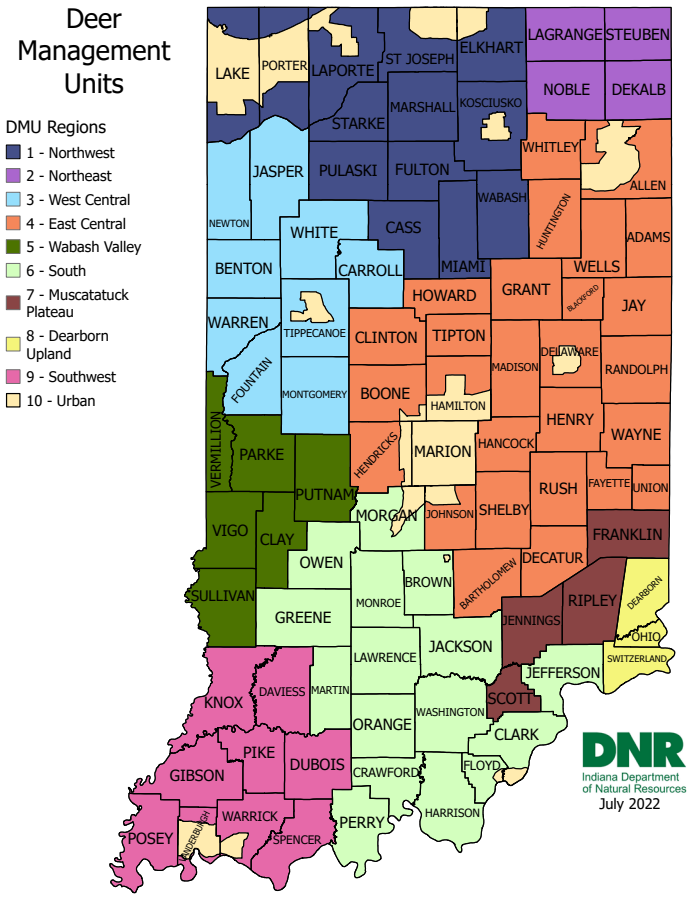


Figure 3-6. Indiana deer management units (DMUs) created by the DNR and Purdue University to better understand survey data trends regionally.



Hunter Success and Hunters Afield

The number of Indiana deer hunting licenses sold each year represents the number of licensed hunters afield during the hunting season, but that number does not include all hunters attempting to harvest a deer in a given year. A portion of Indiana hunters have a lifetime license, which requires no annual purchase. These hunters are not tracked in yearly license sales data, and a hunter with a lifetime license is not necessarily still an active hunter. Indiana also allows for license exemptions for landowners and active military members, and they are not tracked in the license sales data. Lifetime license holders accounted for 14% of the deer harvest in 2024. More than 11% of deer were harvested by landowners or military-exempt hunters in 2024. Estimating the total number of hunters afield sheds light on how many hunters are using the resource and how they are using it (i.e., license or exemption type).

Indiana DNR defines a successful hunter as an individual who harvests at least one deer during hunting season, regardless of how many deer the hunter attempted to harvest. Hunter success can be calculated using license sales and harvest data: hunters who attempted to harvest a deer (i.e., hunters who purchased a license) compared to hunters who actually harvested a deer (i.e., hunters who bought a license and checked in a deer on that license). However, not every hunter is required to purchase an annual hunting license (e.g., lifetime license holders and landowner and military-exempt hunters), so with this method, success rates for lifetime and exempt license holders are assumed to be the same as those for annual licensed hunters. This calculation is not applicable at the county level because deer are not always harvested in the same county where the hunter purchased a license.

Hunter success can also be calculated from hunter survey responses. During multiple years of the annual Deer Management Survey (DMS), hunters were asked to report the number of deer they wanted to harvest, the number of deer they harvested, and the license or exemption used to harvest the deer. This information allows DNR to calculate hunter success in a similar way to using the license sales and harvest data: the number of hunters who attempted to harvest a deer compared to the number of hunters who successfully harvested a deer. Because the DMS was available for all hunters with a valid email address in the DNR system, this calculation captures all hunters regardless of license type or exemption, providing an accounting of success rates for lifetime license holders, landowners, and military-exempt hunters.

Hunter success rates themselves are an index that may indicate the relative herd size in an area (Roseberry and Woolf 1991). For example, a comparably high hunter success rate over time may mean it is becoming easier to harvest a deer because the deer population is increasing, while a low hunter success rate over time may mean it is becoming more difficult to harvest a deer because the deer population is decreasing in that area. These comparisons are useful for determining how the deer population is fluctuating over time in an area, which then helps set hunting quotas and regulations.

Methods

For the 2024-2025 hunting season, license sales, the deer management survey, and harvest data were used to estimate hunter success. We estimated success rates for all non-youth resident and nonresident annual license holders in our database for each deer season from 2015 to 2024. It was not possible to calculate youth success rates using the same methodology because youth licenses are not specific to deer. Success was defined as harvesting and checking in at least one deer during the 2024-2025 deer season using the same customer ID number that was used to purchase an annual deer license. To calculate success rate, DNR divided the number of successful hunters in each category by the total number of hunters in that category.

Resident License Success Rate (SRL_R)=The number of non-youth hunters who purchased a resident annual deer license and checked in a deer using the same CID number/the total number of non-youth hunters who purchased a resident annual deer license

Nonresident License Success Rate (SRL_{NR})= The number of non-youth hunters who purchased a nonresident annual deer license and checked in a deer using the same CID number/the total number of non-youth hunters who purchased a nonresident annual deer license

Using the deer management survey, DNR estimated success rates for all non-youth resident and nonresident annual license holders, lifetime license holders, and license-exempt hunters who participated in the annual deer management survey for each deer season from 2017 to 2024. Although hunters can hunt using multiple license types per season, DNR categorized them into a single category to avoid double counting. Any hunter who purchased an annual license was categorized as an annual license holder. Any hunter who hunted using a lifetime license and did not buy an annual license was categorized as a lifetime license holder. Any hunter who hunted using a license exemption and did not purchase an annual license or hunt on a lifetime license was categorized as license exempt. Like the license success rate, the survey success rate was calculated as the number of successful hunters in each category divided by the total number of hunters in that category.

Resident Survey Success Rate (SRS_R)= The number of non-youth hunters who reported purchasing a resident annual deer license and checked in a deer under the resident annual license category/the total number of non-youth hunters who reported purchasing a resident annual deer license

Nonresident Survey Success Rate (SRS_N)= The number of non-youth hunters who reported purchasing a nonresident annual deer license and checked in a deer under the nonresident annual license category/the total number of non-youth hunters who reported purchasing a nonresident annual deer license

Lifetime Survey Success Rate (SRS_L)= The number of non-youth hunters who reported hunting using a lifetime license and checked in a deer under the lifetime license category/the total number of non-youth hunters who reported hunting using a lifetime license

Exemption Survey Success Rate (SRS_E)= The number of non-youth hunters who reported hunting using a license exemption and checked in a deer under a license exemption category/the total number of non-youth hunters who reported hunting using a license exemption

DNR used harvest data and license success rates to calculate the number of hunters afield for each deer season from 2015 to 2024. For each year DNR queried the number of unique hunters who checked in a deer under the following categories: resident annual license, nonresident annual license, lifetime license, landowner exemption, and military exemption. As with the deer management survey success rate calculation, hunters were exclusively assigned to a single category to avoid overestimating the number of hunters afield. To calculate the number of hunters afield, DNR divided the number of unique hunters in each category by the license success rate and summed the category estimates. DNR used the license success rates to estimate the number of hunters afield, because survey responses appear to be biased toward successful hunters.

$$\textit{Hunters Afield} = (HCD_{RAL}/SRL_R) + (HCD_{NAL}/SRL_N) + (HCD_{LL}/SRL_R) + (HCD_{LO}/SRL_R) + (HCD_{LO}/SRL_R) + (HCD_{ME}/SRL_R) + (HCD_Y/SRL_R)$$

Where,

HCD_{RAL} = Adult hunters who checked in a deer and purchased a resident annual deer hunting license

HCD_{NAL} = Adult hunters who checked in a deer and purchased a nonresident annual deer hunting license

HCD_{LL} = Hunters who checked in a deer using a lifetime license

HCD_{LO} = Hunters who checked in a deer using a landowner exemption

HCD_{ME} = Hunters who checked in a deer using a military exemption

HCD_Y = Youth hunters who checked in a deer and purchased a youth license

Results

The resident license success rate rose steadily from a low of 0.31 (CI_{95}=0.003) in 2015 to 0.39 (CI_{95}=0.003) in 2019 (Figure 3-7, Table 3-17, and Table 3-18). The 2020 success rate was similar to 2019, at 0.40 (CI_{95}=0.003), but it decreased slightly in 2021 to 0.39 (CI_{95}=0.003). In 2022, the resident success rate reached a new high, 0.43 (CI_{95}=0.003). It fell slightly again in 2023 to 0.42 (CI_{95}=0.003) but rose again in 2024 to a high of 0.43 (CI_{95}=0.003). The nonresident license success rate was higher than the resident success rates in 2015, 2016, 2017, and 2018

(Figure 3-7). From 2018-2024, the nonresident license success rate followed a similar pattern as the resident license success rate but was consistently lower, with an annual success rate of 0.38 (CI_{95}=0.009) in 2024.

Survey success rates increased for all types of deer hunters in 2024 (Figure 3-8). Resident annual success rates were 0.60 (CI_{95}=0.010) in 2024 compared to 0.56 CI_{95}=0.008) in 2023. The success rate for nonresident hunters rose to 0.51 (CI_{95} =0.036) from 0.48 (CI_{95}=0.030) in 2023. Lifetime license success rates increased from 0.58 (CI_{95}=0.013) in 2023 to 0.60 (CI_{95}=0.016) in 2024. The success rate for exempt hunters was 0.51 (CI_{95} =0.025) in 2024 compared to 0.47 (CI_{95}=0.018) in 2023.

Survey success rates were consistently higher than license success rates, with a mean difference of 0.14 (CI_{95} 0.02) for both resident annual hunters and nonresident annual hunters. The two measures of success have both been increasing over time. For most years, nonresident success rates have been equal to or lower than resident success rates.

The number of hunters afield compared to 2023 varied by license category in 2024 (Figure 3-9). The number of resident annual hunters and landowner exempt hunters were similar in the two years. The number of nonresident annual hunters, military exempt hunters, and youth annual hunters rose in 2024 relative to 2023. The number of lifetime license hunters continued to fall in 2024.

The total estimated number of hunters afield fell steadily from 2015 until 2019 (Figure 3-10; Table 3-19). There was a slight increase in 2020, but the downward trend continued until 2022. This increased again slightly in 2023 and stayed steady in 2024 with an estimated 204,160 total hunters afield.

Discussion

With more hunters afield, hunter success rates appeared to decrease slightly, especially for nonresident annual hunters. The large mean difference in success rates between the license data and the survey data is likely because of systematic biases in both data sets. The license data calculation is based on the success rate of only non-youth hunters who purchased a license and assumes that everyone who purchased a license took advantage of the hunting opportunity. Furthermore, a hunter is only counted as successful if they checked in a deer with the same Customer ID they used to purchase an annual license. These underlying assumptions likely result in an underestimate of success rate and thus an underestimate in the number of hunters afield. However, DNR uses the license success rate for the hunters-afield calculation because it believes it is a more accurate estimate of success than the deer management survey estimates, which are calculated from a nonrandom sample of deer hunters.

Based on the survey success estimates, DNR knows that the success rate of hunters who purchased an annual license may not be the same for other hunters. For example, lifetime license holder success rates were generally higher than other groups', and exempt success rates were generally lower. One of the goals of the DMS was to estimate success rates for different groups based on license category to help DNR more precisely estimate the number of hunters afield (Caudell and Vaught 2018); however, given the survey bias toward successful hunters, this is infeasible without a correction factor to adjust between hunter success based on license sales data and hunter success calculated from the DMS.

There are several practical applications for estimating hunter success and hunters afield. Hunter success may act as an index of deer populations (Roseberry and Woolf 1991) and a predictor of hunter satisfaction (Gigliotti 2000). Estimating

the number of hunters afield using a standardized method of calculation provides a repeatable index for hunter trends in Indiana. Because the proportion of the population actively participating in hunting has been declining over time (U. S. Fish & Wildlife Service 2018), it is important to have an accurate index of these trends. As DNR puts forth efforts to recruit new hunters, retain current hunters, and reactivate hunters who have stopped hunting, having an estimate of the number of hunters participating in the hunting season will aid in evaluation of the success of these programs. Ultimately, the most accurate measure of hunter success and hunters afield requires documenting every hunter who attempts to harvest a deer through license sales, registration, or some other record.

Figure 3-7. Calculated annual success rates of non-youth licensed resident and nonresident deer hunters who purchased an annual deer license and checked in at least one deer using the same Customer ID number.

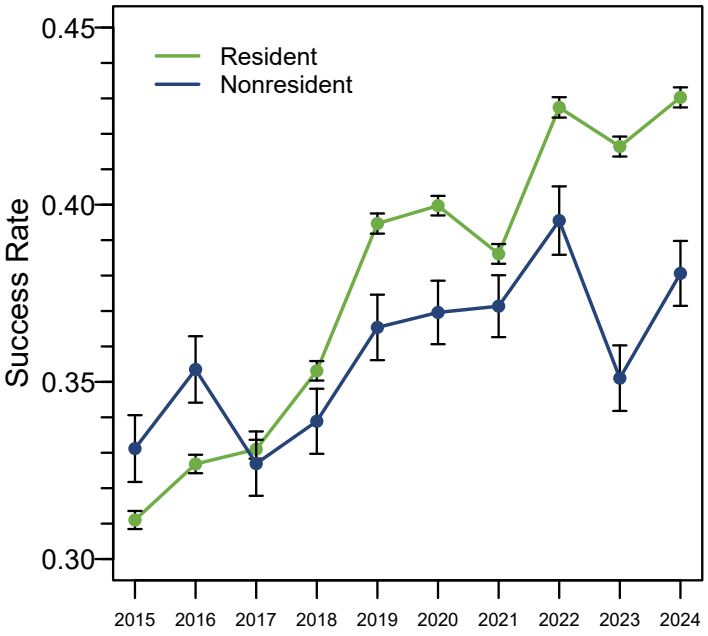


Figure 3-8. Calculated annual success rates of non-youth deer hunters who hunted using resident and nonresident annual licenses, lifetime licenses, and military and landowner exemptions, and participated in the annual Deer Management Survey.

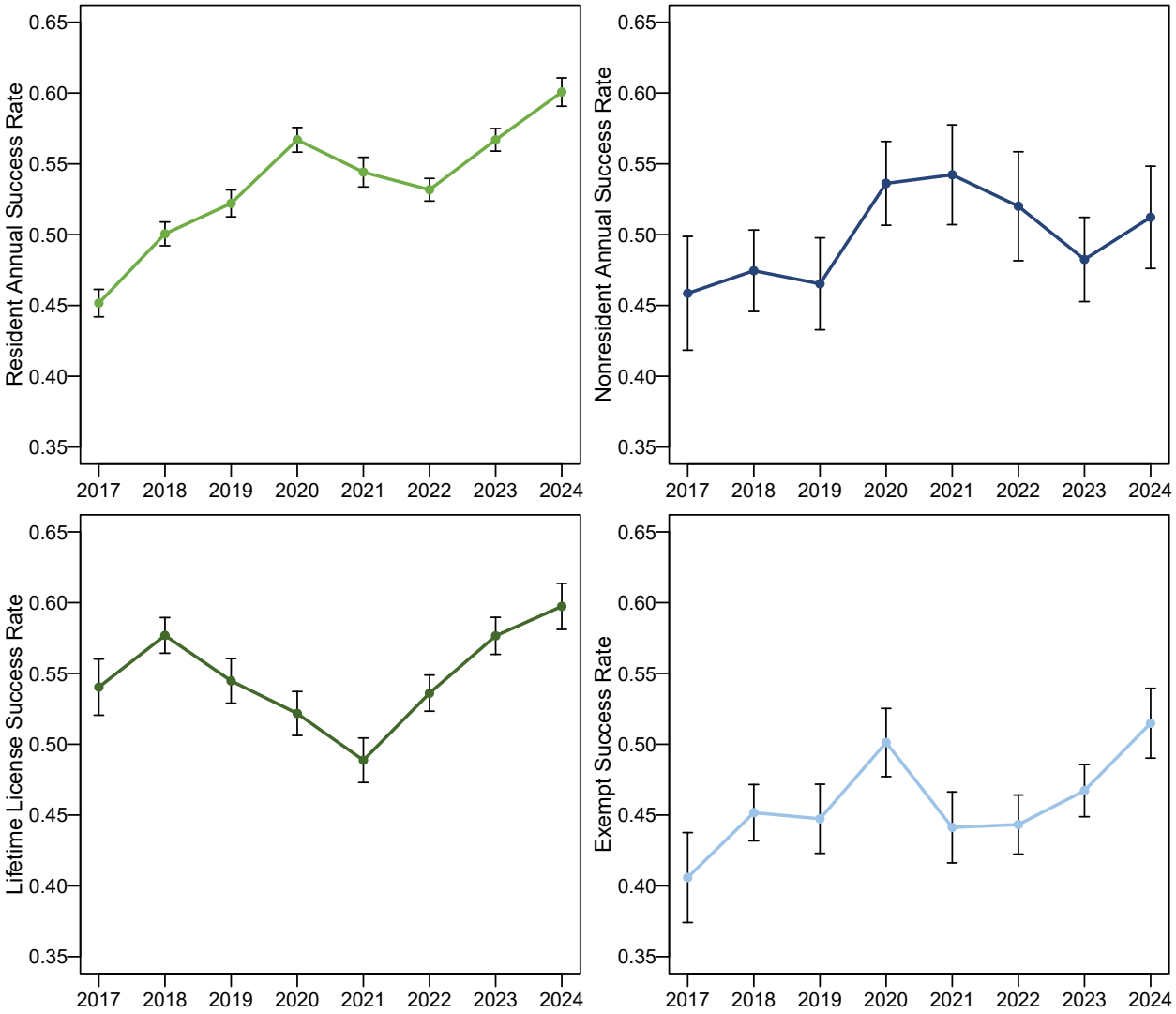


FIGURE 3-9. Estimated hunters afield in each license category, including resident annual license holders, nonresident annual license holders, lifetime license holders, landowner exemptions, military exemptions, and youth annual license holders.

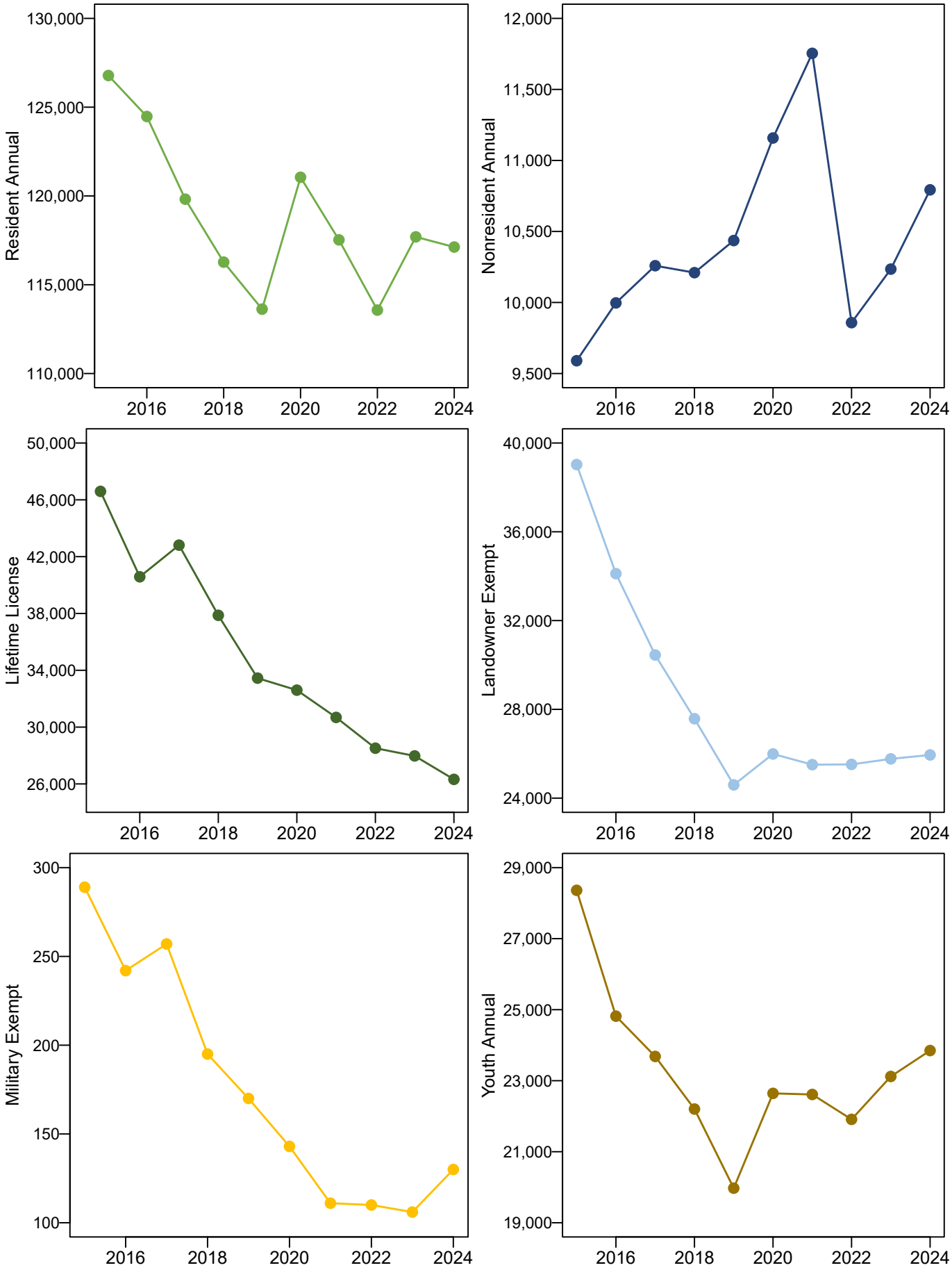


Figure 3-10. Total estimated hunters afield during Indiana deer hunting seasons, 2015-2016 through 2024-2025.

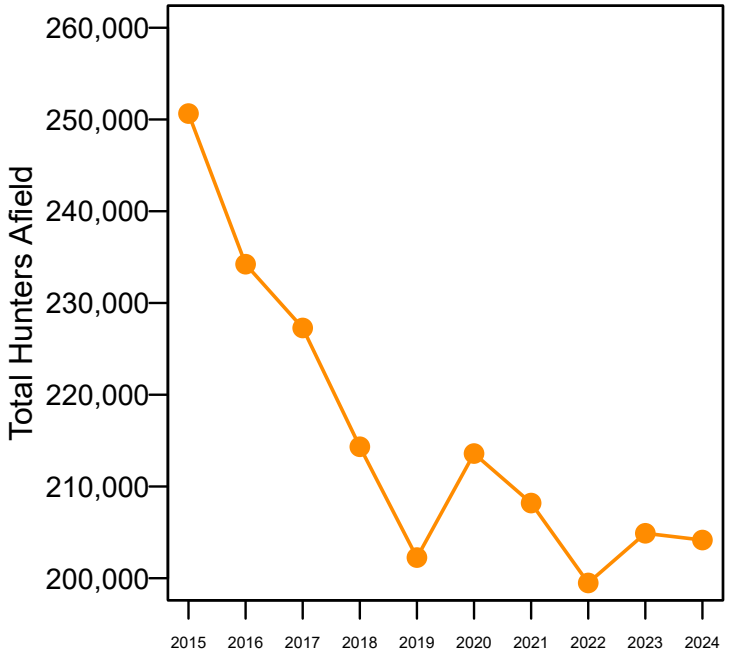


Table 3-17. Calculated annual success rates and 95% confidence intervals of non-youth licensed resident and nonresident deer hunters who purchased an annual deer license and checked in at least one deer using the same Customer ID number.

Season	All Resident Hunter Success Rate	All Resident Hunter Success Rate +- 95 % CI	Nonresident Success Rate	Non-resident Success Rate +- 95 % CI
2018	0.45	0.01	0.46	0.04
2019	0.50	0.01	0.47	0.03
2020	0.52	0.01	0.47	0.03
2021	0.57	0.01	0.54	0.03
2022	0.54	0.01	0.54	0.04
2023	0.53	0.01	0.52	0.04
2024	0.57	0.01	0.48	0.03
2025	0.43	0.00	0.38	0.01

Table 3-18. Calculated annual success rates and 95% confidence intervals of non-youth licensed resident (separated by resident annual license purchasers, lifetime license holders, and exempt landowners) and nonresident deer hunters who purchased an annual deer license and checked in at least one deer using the same Customer ID number.

Season	Annual Resident Success Rate	Annual Resident Success Rate +- 95 % CI	Nonresident Success Rate	Non-resident Success Rate +- 95 % CI	Lifetime License Success Rate	Lifetime License Success Rate +- 95 % CI	Exempt Landowner Success Rate	Exempt Landowner Success Rate +- 95 % CI
2018	0.45	0.01	0.46	0.04	0.54	0.02	0.41	0.03
2019	0.50	0.01	0.47	0.03	0.58	0.01	0.45	0.02
2020	0.52	0.01	0.47	0.03	0.54	0.02	0.45	0.02
2021	0.57	0.01	0.54	0.03	0.52	0.02	0.50	0.02
2022	0.54	0.01	0.54	0.04	0.49	0.02	0.44	0.03
2023	0.53	0.01	0.52	0.04	0.54	0.01	0.44	0.02
2024	0.57	0.01	0.48	0.03	0.58	0.01	0.47	0.02
2025	0.60	0.01	0.51	0.04	0.60	0.02	0.51	0.02

Table 3-19. Calculated estimated hunters afield during Indiana deer hunting seasons, 2015-2016 through 2024-2025.

Year	Resident Hunters Using Annual License	Nonresident Hunters Using Annual License	Estimated Hunters Using Lifetime License	Estimated Hunters Using Landowner Exempt	Military Exempt Hunters	Youth Hunters	Estimated Total Hunters Afield
2015	125,800	10,561	40,100	31,850	227	25,233	233,771
2016	123,669	10,794	37,005	29,689	201	22,875	224,233
2017	119,180	10,888	39,670	28,651	242	22,655	221,286
2018	115,755	10,718	36,490	26,795	191	21,669	211,618
2019	113,251	10,801	33,082	24,362	169	19,841	201,506
2020	120,829	11,339	32,532	25,912	143	22,609	213,364
2021	117,440	11,857	30,680	25,474	111	22,608	208,170
2022	113,500	9,922	28,507	25,526	110	21,927	199,492
2023	117,716	10,205	27,976	25,767	106	23,130	204,900
2024	117,122	10,793	26,320	25,946	130	23,849	204,160

Literature Cited

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Roseberry, J. L. and A. Woolf. 1991. A Comparative Evaluation of Techniques for Analyzing White-tailed Deer Harvest Data. Wildlife Monographs 117: 3-59.

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Chapter 4. Deer Control Permits

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Deer control permits grant special permission to take deer outside of the deer hunting season and are issued when farmers and other landowners experience problems with deer. These permits reduce damage and other conflicts with landowners and help alleviate future property damage from deer in localized areas. Deer control permits are not issued for large scale population control, and the number of deer taken on control permits is lower than the number of deer harvested during the hunting season in each county (Table 4-1). An exception is Marion County, where few deer were harvested by hunters because of limited access, and a comparatively large number of deer were removed using control permits. Typical problems in Indiana resulting from deer include browsing damage to crops, orchards, nurseries, vineyards, and plants used for landscaping (Table 4-2). Deer control permits are issued to landowners who demonstrate damage in excess of $500, to address disease concerns from imminent threat (i.e., chronic wasting disease where it is in greater than 5% of the local population), to protect endangered species (e.g., Porter County), and for the safety of the public.

When permits expire, permit holders are required to report to the Indiana DNR the number of deer taken on the permit, the sex of the deer, the equipment used, and the disposal method for each deer taken. In 2024, prior to this report, DNR received reports from 342 of the 372 deer control permits issued statewide. A total of 2,294 deer were reported taken statewide on deer control permits, representing 1.8% of the cumulative deer taken, which is the total number of hunter-harvested deer and deer taken on control permits in the current year (Table 4-3). The breakdown by county of the sex of the deer taken and how they were used or disposed of can be found in Table 4-1. Some errors exist in the total number and the individual numbers of bucks, does, and button bucks reported taken on deer control permits due to permit-holder reporting error or due to the total take being split between counties for permits that cover multiple counties.

Table 4-1. Deer control permits issued by county in 2024, including the number of deer authorized to be taken and the number of deer taken per permit. Cumulative deer is the number of hunter-harvested deer plus the number of deer taken on control permits. The sum of permits per county is greater than the total number of permits issued because some permits were issued for multiple counties and are counted for each county. The number of deer taken per permit was divided among multiple counties on a single permit.

County	Permits Issued	Authorized Take	Deer Taken	Avg Deer Taken per Permit	% Cumulative Deer Taken	Bucks Taken	Button Bucks Taken	Does Taken	Deer Consumed or Donated	% Deer Utilized
Allen	4	34	11	2.8	0.7%	0	3	8	2	18%
Bartholomew	9	101	10	1.1	0.9%	1	0	9	9	90%
Benton	1	15	6	6.0	3.3%	0	0	6	6	100%
Brown	12	241	125	10.4	7.7%	32	6	87	114	91%
Carroll	1	10	1	1.0	0.1%	0	0	1	1	100%
Cass	4	37	15	3.8	1.0%	1	1	13	6	40%
Clark	6	80	50	8.3	3.5%	7	9	34	38	76%
Clay	2	23	9	4.5	0.7%	2	0	7	2	22%
Crawford	4	36	17	4.3	0.8%	4	1	12	12	71%
Daviess	4	48	28	7.0	1.9%	4	3	21	28	100%
Dearborn	11	92	47	4.3	2.6%	5	3	38	31	66%
Decatur	1	12	3	3.0	0.5%	0	0	3	3	100%
DeKalb	10	110	53	5.3	2.1%	10	9	34	71	134%
Delaware	2	15	1	0.5	0.1%	0	0	1	0	0%
Dubois	5	36	11	2.2	0.5%	2	1	8	7	64%
Elkhart	3	33	14	4.7	0.7%	5	1	8	14	100%
Fayette	1	4	1	1.0	0.2%	1	0	0	1	100%

Table 4-1. Continued

County	Permits Issued	Authorized Take	Deer Taken	Avg Deer Taken per Permit	% Cumulative Deer Taken	Bucks Taken	Button Bucks Taken	Does Taken	Deer Consumed or Donated	% Deer Utilized
Floyd	5	49	24	4.8	3.6%	1	3	20	23	96%
Fountain	2	40	23	11.5	1.5%	4	0	19	21	91%
Franklin	15	117	54	3.6	3.1%	9	3	42	26	48%
Fulton	4	69	60	15.0	4.0%	22	2	36	44	73%
Gibson	4	33	3	0.8	0.2%	0	0	3	2	67%
Greene	1	10	1	1.0	0.0%	0	1	0	1	100%
Harrison	10	226	96	9.6	3.6%	11	5	80	60	63%
Hendricks	1	5	0	0.0	0.0%				0	
Henry	1	10	1	1.0	0.1%	0	0	1	0	0%
Huntington	3	13		0.0	0.0%				0	
Jackson	12	179	49	4.1	2.8%	4	3	42	24	49%
Jasper	3	40	25	8.3	1.7%	2	1	22	25	100%
Jay	1	15	0	0.0	0.0%				0	
Jefferson	4	37	20	5.0	1.3%	0	5	15	4	20%
Jennings	6	95	15	2.5	1.0%	2	1	12	12	80%
Johnson	2	20	3	1.5	0.5%	3	0	0	3	100%
Kosciusko	3	31	5	1.7	0.2%	1	0	4	2	40%
LaGrange	10	149	53	5.3	1.8%	9	8	36	46	87%
Lake	5	60	38	7.6	2.7%	0	2	36	32	84%
LaPorte	4	115	91	22.8	4.2%	41	12	34	80	88%
Lawrence	10	85	56	5.6	2.4%	2	11	43	9	16%
Madison	3	31	6	2.0	0.8%	1	0	5	1	17%
Marion	4	146	100	25.0	18.2%	39	14	47	100	100%
Marshall	14	132	48	3.4	1.9%	8	5	35	27	56%
Martin	1	10	10	10.0	0.6%	1	3	6	9	90%
Miami	4	49	34	8.5	2.1%	9	3	22	23	68%
Monroe	8	116	61	7.6	4.2%	6	10	45	18	30%
Montgomery	2	40	17	8.5	1.4%	4	1	12	12	71%
Newton	1	7	5	5.0	0.4%	0	0	5	5	100%
Noble	4	69	46	11.5	1.7%	6	5	35	22	48%
Ohio	2	25	12	6.0	2.6%	0	4	6	12	100%
Orange	2	23	15	7.5	0.8%	0	2	13	1	7%
Owen	2	50	14	7.0	0.7%	1	3	10	13	93%
Parke	12	123	35	2.9	1.4%	10	1	24	22	63%
Perry	6	102	55	9.2	2.9%	0	5	50	40	73%
Porter	8	162	126	15.8	12.2%	39	13	72	103	82%
Posey	7	109	66	9.4	4.5%	11	4	51	40	61%
Pulaski	8	129	73	9.1	3.2%	5	20	48	53	73%
Putnam	3	26	17	5.7	0.7%	0	4	13	6	35%
Ripley	5	75	23	4.6	1.7%	3	2	17	18	78%
Saint Joseph	2	35	2	1.0	0.1%	1	0	1	2	100%
Scott	1	13	5	5.0	0.6%	0	0	5	3	60%
Shelby	1	8	1	1.0	0.2%	0	0	1	1	100%
Spencer	4	61	49	12.3	3.8%	6	3	40	31	63%
Starke	7	75	35	5.0	1.9%	4	9	22	34	97%
Steuben	12	176	72	6.0	2.2%	7	0	65	64	89%
Sullivan	8	133	46	5.8	2.4%	2	5	39	17	37%
Switzerland	6	55	19	3.2	1.2%	2	1	16	17	89%
Tippecanoe	7	66	4	0.6	0.3%	0	0	4	2	50%
Vanderburgh	3	43	7	2.3	0.9%	1	1	5	5	71%
Vermillion	2	11	0	0.0	0.0%	0	0	0	0	
Wabash	9	80	35	3.9	2.6%	1	1	33	18	51%
Warren	3	30	20	6.7	1.5%	0	1	19	19	95%
Warrick	3	72	25	8.3	2.0%	2	2	21	21	84%
Washington	14	273	155	11.1	6.0%	23	21	111	145	94%
White	6	82	28	4.7	2.4%	4	3	21	21	75%
Whitley	2	40	9	4.5	0.7%	2	0	7	7	78%

Table 4-2. Number of damage reports for each crop type or other reason for 2024 deer control permits. Some individuals reported multiple crops or reasons.

Crop or Reason for Permit	Number of Reports
Alfalfa	30
Beans	1
Cantaloupe	1
Christmas Trees	1
Corn	266
Disease	1
Endangered Species	2
Flowers	1
Grain	1
Grapes	6
Hardwoods	1
Hay	29
Landscape	7
Melons	1
Milo	3
Native Plants	1
Nursery Stock	3
Okra	1
Orchard	15
Personal Garden	1
Popcorn	1
Property Damage	1
Pumpkins	11
Safety	2
Soy Beans	282
Squash	1
Sunflowers	1
Sweet Corn	6
Trees	19
Truck Crops	3
Watermelon	3
Wheat	10
Wildflowers	1

Table 4-3. Running total of the number of permits issued, number of deer taken, and the percentage of the cumulative take (which is the number of deer taken on deer control permits divided by number of deer harvested plus the number of deer taken on deer control permits). Prior to 2016, permits were issued in a different manner; therefore, the number of permits prior to 2016 are not reported.

Year	Permits Issued	Deer Taken	% Cumulative Take
2012	-	2,359	1.7%
2013	-	2,428	1.9%
2014	-	1,797	1.5%
2015	-	1,826	1.4%
2016	311	1,556	1.3%
2017	301	1,862	1.6%
2018	277	1,737	1.6%
2019	279	1,625	1.4%
2020	231	1,156	0.9%
2021	282	1,349	1.2%
2022	265	1,533	1.3%
2023	317	1,616	1.3%
2024	372	2,294	1.8%

Chapter 5. Deer-Vehicle Collisions

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Deer-vehicle collisions are reported by state and local police to the Indiana Department of Transportation (INDOT) anytime an accident report is completed for insurance purposes. These reports include information on the direction the vehicle was moving, location of the accident, type of road (e.g., county road, state road, interstate, etc.), road conditions, estimated cost of damage, and other data used in road safety analyses. INDOT provides data on deer-vehicle collisions to DNR each year for this report and for deer population analysis. This data set is especially valuable to the DNR because it is an independent data set that has been collected in a consistent way over a long period of time. Deer-vehicle collisions are also standardized across years and counties by using INDOT's statistics on Daily Vehicle Miles Traveled. Analyzing collisions per billion miles traveled accounts for changes in traffic volume among counties and allows for unbiased comparison of counties and years.

The total number of deer-vehicle collisions reported across the state decreased slightly, from 16,946 in 2023 to 16,337 in 2024 (Figure 5-1; Figure 5-2; Table 5-1; note these numbers may differ slightly from prior reports as data is continually cleaned and/or verified). Most deer-vehicle collisions in 2024 occurred on state roads (34.5%) and county roads (31.4%; Table 5-2). U.S. Routes had the highest number of deer-vehicle collisions (78 DVC) per 100 miles of road in 2024 (Table 5-2).

Nearly 50% of deer-vehicle collisions in 2024 occurred between September and December (Figure 5-3). Additionally, deer-vehicle collisions occurred most often during dawn and dusk, which varied by month as daylight length changed (Figure 5-4).

The estimated economic cost of deer-vehicle collisions from damage to vehicles in 2024 was $104.5 million, based on the average estimated cost per collision in each category using the midpoint of each category. For the category "Over $100,000," a cost of $100,000 was used for each collision (Table 5-3). From 2019 to 2024, deer-vehicle collisions in Indiana cost drivers a total of more than $489.4 million (Table 5-3).

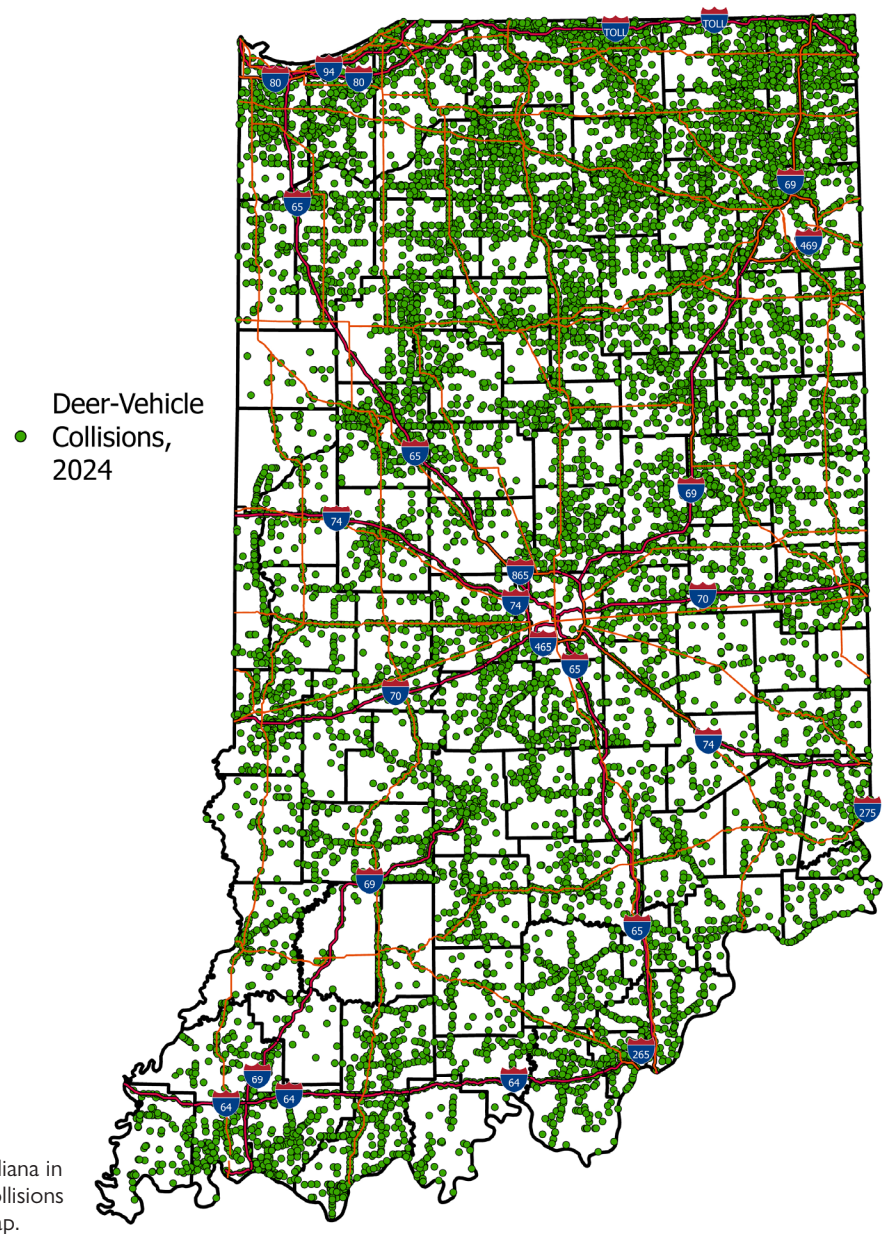

Figure 5-1. Locations of deer-vehicle collisions in Indiana in 2024. Almost all (99.9%) of the 16,337 deer-vehicle collisions reported to INDOT included GPS location data to map.

Table 5-1. Number of deer-vehicle collisions and collisions per billion miles traveled (BMT) by county in Indiana, 2022, 2023, and 2024. DVC/BMT provides a relative rate of deer-vehicle collisions given the number of miles driven in that county per year. Counties with high DVC/BMT have proportionally more deer-vehicle collisions per mile traveled than counties with lower DVC/BMT. Counties with low DVC/BMT may have a high number of deer-vehicle collisions that are offset by a high number of miles traveled (e.g., Lake County).

County	DVC 2022	DVC per BMT 2022	DVC 2023	DVC per BMT 2023	DVC 2024	DVC per BMT 2024
Adams	115	423.1	131	439.8	138	457.9
Allen	467	115	572	125.6	462	99.3
Bartholomew	111	110	123	111.3	96	85.8
Benton	12	95.9	17	105.8	24	145.6
Blackford	74	574	63	484.7	67	523.2
Boone	145	138.4	157	125.3	147	114.6
Brown	100	769.2	132	961.3	104	753.3
Carroll	146	557.1	149	546	166	599.5
Cass	155	410.5	164	383.8	199	463.4
Clark	139	115.7	191	126.5	192	126
Clay	98	252.2	68	161.2	65	151.2
Clinton	119	266.5	122	240.2	120	229.9
Crawford	83	376.7	114	497.8	81	349.3
Daviess	16	54.5	32	87	24	65.2
Dearborn	183	302.5	177	282.9	128	203.2
Decatur	75	167.7	89	192	63	135.3
Dekalb	316	498.1	315	472.9	286	428.3
Delaware	177	158.6	271	212.8	276	216.3
Dubois	150	349.3	199	421	187	390.6
Elkhart	269	144.6	341	164.1	369	173.9
Fayette	32	198.9	36	198.4	25	137.2
Floyd	105	127.8	134	150.2	120	133.2
Fountain	91	345.6	64	236.6	88	322
Franklin	107	473.4	112	489.7	134	590.6
Fulton	174	661.5	207	773.6	225	816.1
Gibson	145	259.8	137	231.8	137	230.4
Grant	217	293.9	266	330.2	244	300.4
Greene	252	683.6	250	669.4	230	612.2
Hamilton	189	58.2	262	73.3	251	68.5
Hancock	76	80.2	129	115.7	127	110.8
Harrison	176	425.3	224	490.3	210	450.7
Hendricks	185	105.5	236	120.6	207	103.4
Henry	92	147.4	128	185.6	141	202.3
Howard	118	175.4	152	198.2	169	222.2
Huntington	223	386.9	290	457	285	442.1
Jackson	153	245.6	188	272.9	202	289.4
Jasper	223	276	233	273.5	282	327.2
Jay	142	628.3	179	765.4	178	767.4
Jefferson	57	207.4	88	288.5	90	296.5
Jennings	95	320.9	124	378.8	105	324.9
Johnson	127	87.5	154	90.1	162	92.2
Knox	117	254.4	122	244.2	117	233.5
Kosciusko	547	716.1	546	670.4	442	531.9
Lagrange	250	519.5	251	486.6	265	507.2
Lake	273	50.2	287	45.3	285	44.8
LaPorte	317	208.4	359	216.5	339	201.4
Lawrence	239	603.6	252	577	219	490
Madison	200	164.8	216	152	194	135.8
Marion	84	9.2	134	11.4	145	12.1

Table 5-1 cont.

County	DVC 2022	DVC per BMT 2022	DVC 2023	DVC per BMT 2023	DVC 2024	DVC per BMT 2024
Marshall	325	585.3	419	685.6	469	755.5
Martin	25	244.1	41	315.6	56	433.8
Miami	228	508.3	284	589.1	285	577.3
Monroe	160	162.3	154	140.2	169	149.3
Montgomery	171	373.8	178	357.5	178	351.8
Morgan	146	160.3	193	201.8	203	207.7
Newton	108	449.4	129	498.8	121	457.9
Noble	301	718.5	385	867	370	819.5
Ohio	54	1309.1	49	1112.4	37	848.4
Orange	125	692.8	142	763.7	112	603.2
Owen	86	448.4	116	543.9	104	479.6
Parke	144	720.4	125	634.8	158	815.2
Perry	77	317	78	317.3	77	313.5
Pike	11	60.9	31	159	19	97.9
Porter	361	168.7	442	184.6	323	133.5
Posey	113	313.6	145	393.7	101	270.9
Pulaski	228	1178.9	237	1223.2	225	1159.3
Putnam	147	275.8	173	295.6	152	254.7
Randolph	90	370.2	105	397.4	123	470.9
Ripley	115	342.2	120	328.9	130	352
Rush	45	213.4	64	280.5	57	249
Saint Joseph	339	121.2	395	131.7	377	126.5
Scott	53	193.9	55	160.9	61	176.1
Shelby	88	137.9	120	157.6	119	153.1
Spencer	187	569.3	228	637.1	231	648.3
Starke	187	772.7	191	750.7	243	916.4
Steuben	501	770	524	777	522	762.6
Sullivan	77	270.5	89	309	59	202.4
Switzerland	30	324.9	57	571.1	69	694.1
Tippecanoe	348	234.2	446	263.7	389	227.4
Tipton	61	222.7	59	199.7	62	201.6
Union	1	26.1	3	39.8	8	106.8
Vanderburgh	118	64.1	127	61	122	57.4
Vermillion	76	318.3	79	309.7	87	337.9
Vigo	198	188.1	196	159.6	209	169.9
Wabash	218	664.9	246	720.1	200	574.6
Warren	103	639.5	85	532.1	77	479.3
Warrick	249	332	274	350.8	236	294.2
Washington	177	660.5	214	771.5	203	741.2
Wayne	186	247.6	199	243.7	212	257.3
Wells	159	583.3	160	558.1	151	524.1
White	151	303.9	204	366.4	209	369.7
Whitley	154	405.4	198	430.3	210	453.5

Table 5-2. The number of deer-vehicle collisions in 2024 by road type and the number of deer-vehicle collisions per 100 miles of road. Collisions on unknown road types (n = 1626), other (n = 1), and private driveways (n = 15) were excluded from the calculations.

Road Type	2023	% of total DVCs	Road Length (mi)	DVCs per 100mi of Road
County Road	4,620	31.4%	64,923.25	7
Interstate	1,045	7.1%	1,896.85	55
Local/City Road	1,734	11.8%	20,850.05	8
State Road	5,070	34.5%	7,149.49	71
US Route	2,226	15.1%	2,862.13	78

Figure 5-2. The number of deer-vehicle collisions per billion miles traveled (DVC/BMT) by county in Indiana in 2024.

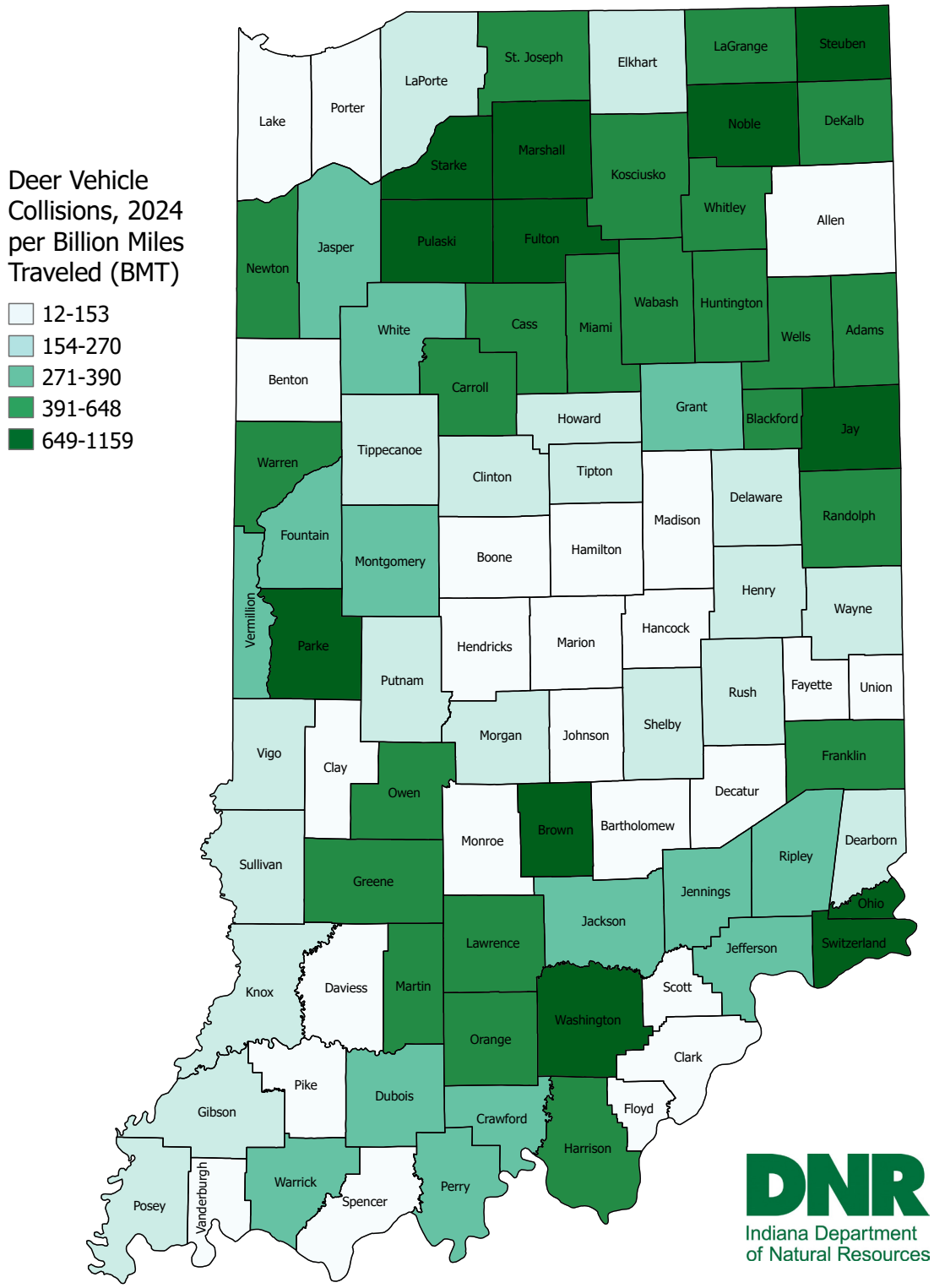

Figure 5-3. Number of deer-vehicle collisions by month in Indiana in 2024.

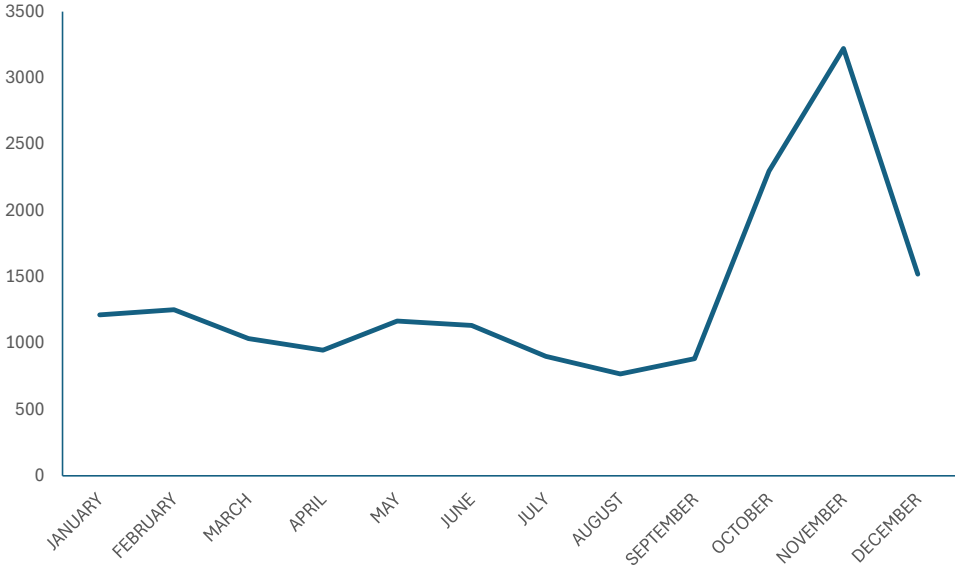

Figure 5-4. The proportion of deer-vehicle collisions by time of day in Indiana from 2022-2024.

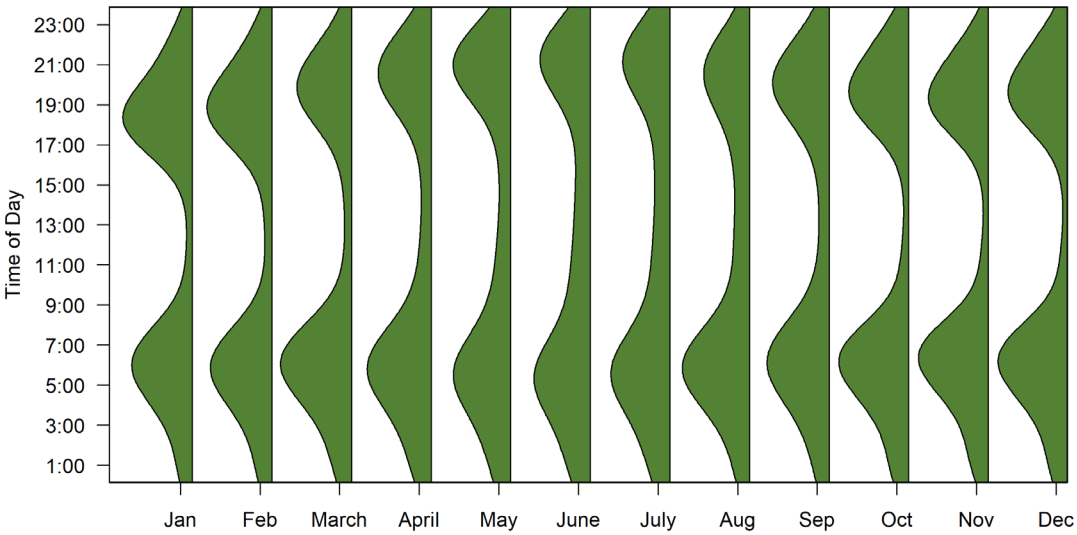

Table 5-3. Reported economic loss due to deer-vehicle collisions in Indiana from 2019-2024. Collisions with an unknown estimate or an estimate of $1,000 or less (n = 293) were not included. Total Damage Estimate 2019-2024 is calculated by multiplying the total number of collisions for that damage estimate range by the average value of damage.

Damage Estimate Range	2024 Total DVCs and % of Total		2023 Total DVCs and % of Total		2022 Total DVCs and % of Total		2021 Total DVCs and % of Total		2020 Total DVCs and % of Total		2019 Total DVCs and % of Total		Total Damage Estimate 2019-2024
$1,001 to $2,500	2547	15.9%	3,103	18.8%	3,721	26.1%	4,477	30.3%	4,503	32.6%	5,234	35.1%	$41,285,543
$2,501 to $5,000	6743	42.0%	6,907	41.8%	5,833	40.8%	5,949	40.3%	5,615	40.7%	6,063	40.6%	$139,181,055
$5,001 to $10,000	4988	31.1%	4,910	29.7%	3,697	25.9%	3,485	23.6%	3,015	21.9%	3,029	20.3%	$173,441,562
$10,001 to $25,000	1539	9.6%	1,386	8.4%	913	6.4%	749	5.1%	606	4.4%	542	3.6%	$100,365,368
$25,001 to $50,000	183	1.1%	189	1.1%	101	0.7%	70	0.5%	47	0.3%	42	0.3%	$23,700,316
$50,001 to $100,000	36	0.2%	32	0.2%	16	0.1%	11	0.1%	9	0.1%	10	0.1%	$8,550,057
Over $100,000	8	0.0%	13	0.1%	6	0.0%	1	0.0%	0	0.0%	1	0.0%	$2,900,000
Total Reports > $1000	16,044		16,540		14,287		14,742		13,795		14,921		$489,423,900

Chapter 6. Deer Health

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Epizootic Hemorrhagic Disease

Epizootic hemorrhagic disease (EHD) is a virus spread among white-tailed deer by a biting midge (*Culicoides variipennis*). Often worse in drought years, severe outbreaks of EHD tend to occur in five- to 10-year cycles in Indiana, but reports of deer mortality caused by EHD are common throughout Indiana every year. Deer can be reported as sick, dead, or in a group with a sick or dead animal via the Indiana DNR's online Sick or Dead Wildlife Report form (on.IN.gov/sickwildlife) and by calls directly to DNR offices.

In July of 2024, the DNR began receiving reports about deer dying in Wabash County. Initial testing attributed this mortality to EHD. Over time, reports of dead deer expanded to Allen, Porter, Wabash, Steuben, Noble, Kosciusko, Huntington, Miami, Lake, and LaPorte counties, with scattered reports also coming in from throughout other counties in the northern third of the state (Figure 6-1). As of Sept. 11, 2024, it appeared that a significant EHD event was affecting Allen, Porter, and Wabash counties. While this outbreak was severe, DNR expected it to be less impactful than the 2022 outbreak in Franklin, Fayette, and surrounding counties in southern Indiana. Therefore, DNR lowered the CBAQs in those counties from two to one, resulting in an overall decrease in the antlerless bag limit (i.e., archery + muzzleloader + bonus antlerless deer) from five to four. This reduction did not affect the deer reduction zones in Allen and Porter counties.

To assess the effects of EHD on deer population sizes, DNR did the following: (1) reviewed the harvest and opinion data from the other similarly affected counties; and (2) conducted aerial surveys for deer within areas experiencing the highest mortality.

Methods

In January 2025, DNR reviewed the number of reported dead deer from the Sick and Dead Wildlife reporting system and recorded the number of reports per square mile for each county. As a correction factor, we multiplied the number of reports by 10 to provide an estimate of the amount of mortality for each county (because not every dead deer is reported). This correction factor is based on a report by Hoff et al. (1973) that stated during an EHD event in North Dakota they believed that the number of deer discovered represented less than 10 percent of the deer that had died. DNR also analyzed the reported mortality by balancing it by the estimated number of people who lived in that area by ZIP code. This was done to account for the disproportional number of people who live in urban centers, such as Fort Wayne and Valparaiso, compared to rural areas, such as rural Wabash County. In a densely populated area, DNR expects that more individuals will see a greater proportion of the deer and, as a result, a greater proportion of deer will be reported to the Sick and Dead Wildlife reporting system, making it appear that a disease outbreak in an urban area will be much greater than an outbreak in a rural area.

Raw reports (i.e., those received through the sick and dead wildlife reporting tool) are examined for clinical signs of disease related to EHD, location that may indicate a deer died from EHD (i.e., next to water), and indicators of mortality not related to EHD (i.e., severe injuries). The reports that appear to be EHD are also further evaluated for duplicates, false reporting, and plotting on a map to

look for other indicators of other mortality. The remaining cases are considered verified EHD reports. A subsample is also tested for EHD to verify the presence of the disease in the county.

The area impacted was determined by creating a 1 mi^2 circular buffer around each case of suspected EHD and overlaying them on a statewide parcel boundary map. This buffer estimates the average home range between a buck and doe white-tailed deer (buck = 1.4 mi^2 [Nielsen and Stroud-Settles 2018]; doe = 0.8 mi^2 [Magle 2015]) and may provide insight on where the deer had traveled upon encountering the midge and estimate locations of other nonreported deer. The entirety of each parcel that the buffer intersected was factored into the calculations. DNR then calculated the amount of deer habitat present within the impacted parcels and compared that to what is available within the entire county.

In February 2025, DNR mailed the annual Deer Management Survey to hunters and non-hunters for whom it had an email address. DNR asked each group about their opinions of the population size, their hunting effort, and their hunting experience for the 2024-2025 hunting season. Results from the Deer Management Survey are posted on the DNR website for each county at IN.gov/dnr/fish-and-wildlife/wildlife-resources/animals/white-tailed-deer/deer-management-survey-results/.

Results, Discussion, and Harvest Recommendations

In 2024, DNR received 1,382 reports from 75 counties of potential EHD cases involving 2,644 sick or dead deer observed. Testing for EHD requires fresh samples of the spleen, liver, kidney, or blood. DNR tested 32 deer from 24 counties. The EHD virus identified included two serotypes - EHDV-6 and EHDV-2. Maps of deer reported, tested, and confirmed to have EHD are available at on.IN.gov/EHD and updated daily as reports are received. Reports of EHD were spread throughout the state, but the largest concentration was in its northern portion (Figures 6-1 and 6-2).

DNR expects counties to have a number of EHD reports each year (usually ranging from 0 to 20). Reports can be spread across the county or can be limited to small areas where an intense but localized outbreak has occurred. While DNR had reports in 75 counties, only 14 counties had more than 20 reports. In general, DNR expects to see some dead deer in most counties each year, and this indicates the background level of EHD or a severe but very localized outbreak. Counties with a significant number of deer spread over a wide area, and counties with total mortality greater than 40% (where population data is available) are addressed below.

Impact Summary

Porter, Steuben, Allen, and Wabash counties received a significant number of reports and had an event that affected a significant amount of deer habitat (Table 6-1). Deer harvests in Porter, Allen, and Wabash counties were down either near or below the low points for harvest compared with the previous 10 years (Table 6-1). The harvest was only down by 6% in Steuben County, but the number of reported dead deer in Steuben, plus the mortality from harvest and deer vehicle collisions would put the total mortality for Steuben just over a total mortality effect of 40%. Additionally, the extent of the event in Steuben County was widespread. Porter received a significant number of reports and likely experienced a major event. DNR will not know how significant the event in Porter was until it can evaluate the flight data. However, based on the number of reports and the effect on harvest, DNR recommended lowering the antlerless

bag limit for the upcoming year in Porter, Steuben, Allen, and Wabash counties by one deer (each county would move from a bag limit of three to a bag limit of two) for one year and recommended suspending the Deer Reduction Zone in Porter for one year. Porter will be re-evaluated once population data is available.

Individual County Assessments (arranged greatest impact to least)

Porter County

DNR verified 250 separate reports of dead deer (n=433) from Porter County. DNR received 1.4 reports per 1,000 residents in the county. Most reports were in the northern third of the county, inside of the deer reduction zone affecting approximately 122.5 square miles (37.1%) of the 330.1 square miles of deer habitat in the county (Figure 6-1). The correction factor cannot be used for Porter County because Hoff et al. (1973) simulated a low human population, similar to what might be found in a rural area looking for deer. DNR cannot estimate total mortality because a correction factor has never been developed for an urban center. The harvest (906 deer harvested; 2.7 deer per square mile of habitat) was significantly lower than the previous year (1,646; 5.0 deer per square mile of habitat; down by 45%) and far below the 95% confidence interval of the 10-year average (1,425 ± 137). However, the bulk of the affected area is a deer reduction zone. The general goal of a deer reduction zone is to increase harvest to the point at which a decline in the deer population occurs. Deer populations begin to decline when population mortality is 40% or greater, depending upon the quality of the habitat. The effect on the population inside the deer reduction zone likely exceeded this goal. Therefore, DNR recommended that **the deer reduction zone be suspended for one year to maintain a lower deer population than in past years, but without further reductions**. This allowed for some recovery in subsequent years but prevented a steep upward rebound in deer populations in the next two to three years. For the remainder of the county, the reduction was not as severe. Therefore, DNR recommended that the County Antlerless Bag Limit **be reduced to a bag limit of two** for one year to allow populations to recover during the 2026 breeding season.

Steuben County

DNR verified 86 separate reports of dead deer (n=253) from Steuben County, which equates to 2.4 reports per 1,000 residents in the county. With the correction factor of 10, the estimated number of dead deer from EHD was at least 2,530 dead deer or 8.1 deer per square mile of deer habitat. The affected area was widespread covering approximately 75.3 square miles of (24.2%) of the 310.8 square miles of deer habitat in the county (Figure 6-1). The harvest (3,216 deer harvested; 10.5 deer per square mile of habitat) was slightly lower than the previous year (3,451; 11.1 deer per square mile of habitat), down by 6%) but still higher than the 95% confidence interval of the 10-year average (2,813 ± 265). The population estimate from 2023 estimates Steuben County to be approximately 15,000 deer pre-harvest or approximately 48.2 deer per square mile. Typically, 14% of the deer harvested are antlerless and 22% of the deer harvested are antlered. The estimated effect of EHD (rounding up to 3,000 deer) would have reduced the population by 20%. However, because the total estimated known mortality was near the threshold at which the combination of harvest and EHD mortality could initiate a population decline, and because the event was widespread, DNR recommended **lowering the bag limit to two for Steuben County** for one year.

Wabash County

DNR verified 75 separate reports of dead deer (n=135) from Wabash County, which equates to 2.5 reports per 1,000 people in the county. With the correction factor of 10, the estimated number of dead deer from EHD was at least 1,350 dead deer or 4.3 deer per square mile of deer habitat. The affected area covered approximately 81.7 square miles (25.9%) of the 315.8 square miles of deer habitat in the county (Figure 6-1). The harvest (1,324 deer harvested; 4.2 deer per square mile of habitat) was significantly lower than the previous year (1,699; 5.4 deer per square mile of habitat; down by 22%), but still within the 95% confidence interval of the 10-year average (1,375 ± 126). Because this appeared to be at the threshold at which the combination of harvest and EHD mortality could initiate a population decline and the event was widespread, DNR recommended **decreasing the bag limit to two for Wabash County**.

Allen County

DNR verified 120 separate reports of dead deer (n=227) from Allen County, which equates to 0.3 reports per 1,000 people in the county. With the correction factor of 10, the estimated number of dead deer from EHD was at least 2,270 dead deer or 4.7 deer per square mile of deer habitat. The affected area covered approximately 92.8 square miles (19.4%) of the 478.4 square miles of deer habitat in the county (Figure 6-1). The harvest (1,606 deer harvested; 3.4 deer per square mile of deer habitat) was much lower than the previous year (2,022; 4.2 deer per square mile of habitat; down by 21%), but still within the 95% confidence interval of the 10-year average (1,744 ± 119). Because this appeared to be near the threshold at which the combination of harvest and EHD mortality could initiate a population decline, **DNR recommended lowering the bag limit to two for Allen County** for one year. The EHD event was not as concentrated in the deer reduction zone as in Porter County; therefore, it is not necessary to suspend the deer reduction zone in Allen County.

Kosciusko County

DNR verified 79 separate reports of dead deer (n=153) from Kosciusko County, which equates to 1.0 reports per 1,000 people in the county. With the correction factor of 10, the estimated number of dead deer from EHD was at least 1,530 dead deer or 3.3 deer per square mile of deer habitat. The affected area covered approximately 80.0 square miles (17.2%) of the 464.1 square miles of deer habitat in the county (Figure 6-1). The harvest (2,504 deer harvested; 5.4 deer per square mile of habitat) was slightly lower than the previous year (2,639; 5.7 deer per square mile of habitat; down by 5%) and above the 95% confidence interval of the 10-year average (2,338 ± 157). Because this appeared to be above the threshold at which the combination of harvest and EHD mortality could initiate a population decline, DNR recommended maintaining the bag limit at three for Kosciusko County.

Noble County

DNR verified 56 separate reports of dead deer (n=148) from Noble County, which equates to 1.2 reports per 1,000 people in the county. With the correction factor of 10, the estimated number of dead deer from EHD was at least 1,480 dead deer or 3.8 deer per square mile of deer habitat. The affected area covered approximately 56.4 square miles (14.6%) of the 385.7 square miles of deer habitat in the county (Figure 6-1). The harvest (2,681 deer harvested; 7.0 deer per square mile of habitat) was lower than the previous year (2,963; 7.7 deer per square mile of habitat; down by 10%) and within the 95% confidence

interval of the 10-year average (2,657 ± 167). Because this appeared to be above the threshold at which the combination of harvest and EHD mortality could initiate a population decline, DNR recommended maintaining the county antlerless bag limit at three for Noble County.

LaPorte County

DNR verified 43 separate reports of dead deer (n=123) from LaPorte County, which equates to 0.4 reports per 1,000 people in the county. With the correction factor of 10, the estimated number of dead deer from EHD was at least 1,230 dead deer or 2.7 deer per square mile of deer habitat). The affected area covered approximately 41.1 square miles (8.9%) of the 460.3 square miles of deer habitat in the county (Figure 6-1). The harvest (2,871 deer harvested; 6.2 deer per square mile of habitat) was slightly lower than the previous year (2,952; 6.4 deer per square mile of habitat), down by 3% and well above the 95% confidence interval of the 10-year average (2,353 ± 265). Because this appeared to be below the threshold at which the combination of harvest and EHD mortality could initiate a population decline and the event was widespread, DNR recommended maintaining the county antlerless bag limit at three for LaPorte County.

Other Counties

As expected, cases of EHD occurred throughout many counties in Indiana. But the majority of these were often low reported numbers or were limited to very small areas within the county (Table 6-1). Based on the available data, no further adjustments to the county antlerless bag limits were recommended.

Future Monitoring

DNR expects cases of EHD to be an annual occurrence. DNR uses the Sick and Dead Deer Report Form (on.IN.gov/sickwildlife) as the primary surveillance method. Reports are reviewed quickly to obtain samples, and DNR reviews the reports at the end of August to determine if any last-minute adjustments to the county antlerless bag limits need to be made.

DNR will continue to monitor population recovery through a combination of flights to estimate deer density. DNR will also use camera surveys to estimate changes in recruitment rate (i.e., the number of 6-month-old fawns that enter the hunting population in the fall). Changes in recruitment rates are important because declining recruitment rates indicate when deer population are approaching carrying capacity.

Hunters and Landowner Monitoring Assistance

DNR collects information on fawn recruitment, which is the number of fawns that survive for six months and enter the population with the other adults, using a combination of camera data on public land and archers who participate in the Archer's Index. The data quality is limited by the relatively small number of participants. Therefore, bow hunters are encouraged to sign up for the Archer's Index at on.IN.gov/archersindex.

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Figure 6-1. The estimated areas (land parcels) affected where suspect EHD sick and dead deer were reported in 2024.

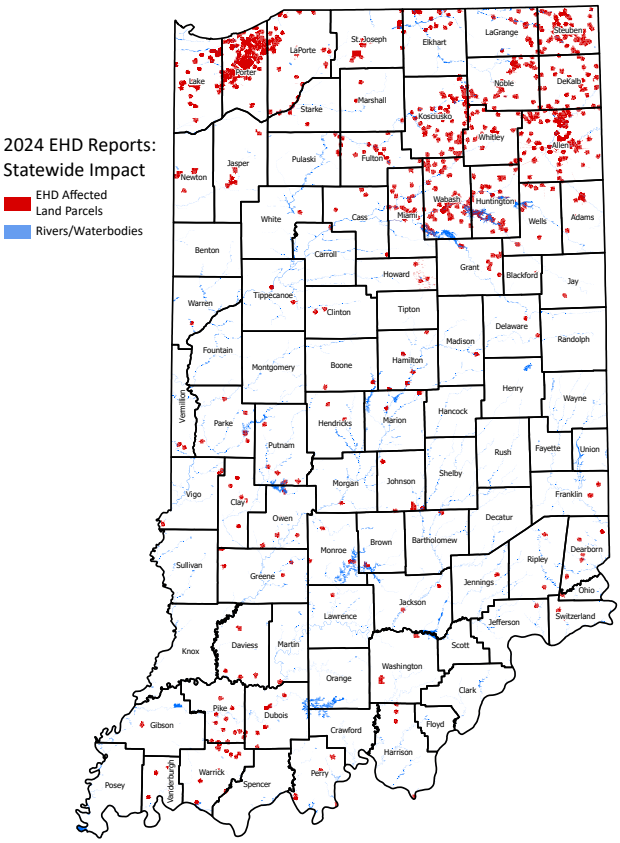

Figure 6-2. A. Counties where suspected EHD sick and dead deer were reported with total number of sick/dead deer reported. B. Counties where EHD samples were collected and confirmed as EHD.

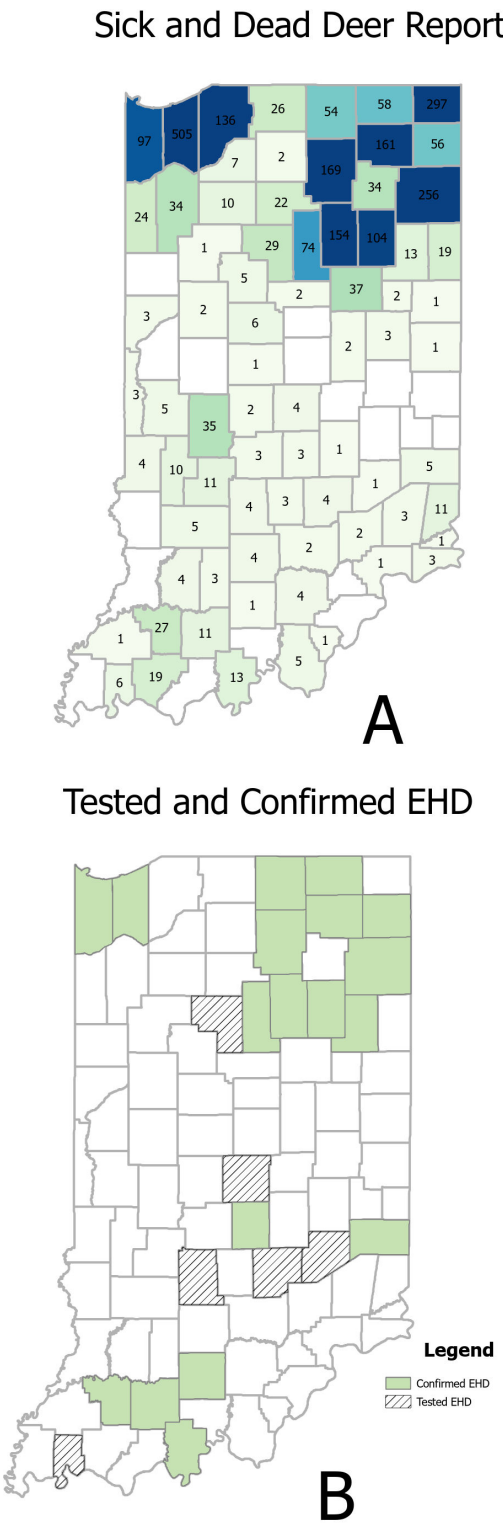

Table 6-1. Summary of EHD reports, report per 1,000 residents, estimated area affected by EHD, and changes in harvest.

County	EHD reports	Number of reported dead deer	Reported dead deer per 1000 residents	Est dead per sq mi deer habitat	EHD Impacted Deer Habitat sq mi	% of Deer Habitat Impacted	Total County Deer Habitat sq mi	% change in harvest from previous year	10-Year Average Harvest	95% CI 10-Year Harvest
Adams	9	17	0.5	0.7	7.5	3.3	229.8	-3%	667	79
Allen	120	227	0.6	4.7	92.8	19.4	478.4	-21%	1744	119
Bartholomew	4	3	0.0	0.1	2.2	0.6	354.5	-2%	1037	59
Benton	0	0	0.0	0.0	0.0	0.0	62.5	-6%	126	22
Blackford	2	1	0.1	0.1	1.6	1.3	126.8	15%	433	57
Boone	1	1	0.0	0.0	2.4	1.1	228.9	15%	453	31
Brown	1	2	0.1	0.1	4.0	1.2	316.4	11%	1519	86
Carroll	4	4	0.2	0.2	1.4	0.6	224.9	7%	916	96
Cass	6	19	0.5	0.7	6.0	2.2	278.3	9%	1228	113
Clark	0	0	0.0	0.0	0.0	0.0	368.1	22%	1485	195
Clay	5	10	0.4	0.3	8.6	2.7	319.0	9%	1203	33
Clinton	1	6	0.2	0.3	3.5	1.9	187.6	22%	412	59
Crawford	0	0	0.0	0.0	0.0	0.0	308.4	14%	1914	154
Daviess	4	4	0.1	0.1	6.4	1.8	347.5	9%	1096	117
Dearborn	6	9	0.2	0.3	8.1	2.7	306.3	-10%	757	40
Decatur	1	0	0.0	0.0	0.0	0.0	303.3	4%	2119	162
DeKalb	37	52	1.2	1.5	45.2	13.1	344.3	1%	2196	183
Delaware	3	2	0.0	0.1	3.0	1.0	306.4	11%	798	61
Dubois	9	10	0.2	0.2	10.2	2.4	422.1	13%	1874	79
Elkhart	20	41	0.2	1.0	18.2	4.5	405.4	3%	1573	183
Fayette	0	0	0.0	0.0	0.0	0.0	187.4	60%	844	145
Floyd	1	0	0.0	0.0	0.0	0.0	147.3	-3%	684	49
Fountain	0	0	0.0	0.0	0.0	0.0	281.9	14%	1259	91
Franklin	4	3	0.1	0.1	3.8	1.0	372.9	54%	2228	388
Fulton	14	18	0.9	0.7	17.8	7.1	251.8	-3%	1413	82
Gibson	1	1	0.0	0.0	1.2	0.3	361.7	3%	1239	25
Grant	16	33	0.5	1.3	13.3	5.3	250.6	9%	880	81
Greene	4	5	0.2	0.1	5.6	1.1	499.1	7%	2156	100
Hamilton	7	11	0.0	0.4	5.5	2.0	273.0	2%	507	33
Hancock	0	0	0.0	0.0	0.0	0.0	207.9	13%	304	23
Harrison	4	5	0.1	0.1	5.4	1.1	485.0	4%	2656	198
Hendricks	2	2	0.0	0.1	2.6	0.8	310.0	8%	653	41
Henry	0	0	0.0	0.0	0.0	0.0	312.2	23%	625	51
Howard	2	2	0.0	0.1	3.0	1.9	158.0	-2%	417	45
Huntington	40	100	2.7	3.5	45.7	15.9	287.7	-6%	964	97
Jackson	2	2	0.0	0.0	2.4	0.5	473.0	4%	1681	125
Jasper	8	28	0.8	0.9	9.1	2.9	319.7	6%	1312	73
Jay	1	1	0.1	0.0	1.7	0.6	296.8	19%	1046	96
Jefferson	1	1	0.0	0.0	1.9	0.5	361.7	6%	1792	200
Jennings	2	1	0.0	0.0	1.9	0.5	373.5	-1%	1760	140
Johnson	2	1	0.0	0.0	7.5	2.8	263.3	-1%	590	34
Knox	0	0	0.0	0.0	0.0	0.0	356.1	17%	916	43
Kosciusko	79	153	1.9	3.3	80.0	17.2	464.1	-5%	2338	157
LaGrange	28	49	1.2	1.3	23.1	6.4	363.9	-5%	1337	77
Lake	51	79	0.2	2.3	35.6	10.4	341.6	4%	1839	108
LaPorte	43	123	1.1	2.7	41.1	8.9	460.3	-3%	2353	265
Lawrence	1	2	0.0	0.0	1.4	0.3	449.9	4%	2289	95
Madison	2	2	0.0	0.1	1.6	0.6	291.6	16%	569	50

Table 6-1 cont.

County	EHD reports	Number of reported dead deer	Reported dead deer per 1000 residents	Est dead per sq mi deer habitat	EHD Impacted Deer Habitat sq mi	% of Deer Habitat Impacted	Total County Deer Habitat sq mi	% change in harvest from previous year	10-Year Average Harvest	95% CI 10-Year Harvest
Marion	4	3	0.0	0.2	2.5	1.3	188.3	1%	448	14
Marshall	2	2	0.0	0.1	4.9	1.3	377.4	6%	1996	158
Martin	2	3	0.3	0.1	2.0	0.6	339.2	6%	1624	56
Miami	25	59	1.7	2.1	28.2	10.0	282.5	-5%	1314	152
Monroe	4	4	0.0	0.1	6.2	1.5	403.4	-4%	1500	87
Montgomery	0	0	0.0	0.0	0.0	0.0	291.0	8%	1003	79
Morgan	2	2	0.0	0.1	1.4	0.4	366.0	5%	1340	61
Newton	6	23	1.6	1.2	9.0	4.7	192.6	21%	877	83
Noble	56	148	3.1	3.8	56.4	14.6	385.7	-10%	2657	167
Ohio	1	1	0.2	0.1	2.2	2.6	85.5	-4%	625	81
Orange	1	1	0.1	0.0	0.0	0.0	400.9	5%	1994	107
Owen	6	9	0.4	0.2	10.1	2.6	385.8	19%	1738	86
Parke	5	5	0.3	0.1	9.4	2.3	414.1	12%	2250	101
Perry	6	9	0.5	0.2	6.9	1.8	383.4	8%	1738	105
Pike	17	24	2.0	0.7	20.1	6.1	329.1	-7%	1564	71
Porter	250	433	2.5	N/A	122.5	37.1	330.1	-45%	1425	137
Posey	0	0	0.0	0.0	0.0	0.0	321.4	7%	1195	78
Pulaski	5	10	0.8	0.4	4.2	1.5	271.9	14%	1868	102
Putnam	7	26	0.7	0.6	10.1	2.3	437.9	7%	1976	135
Randolph	1	0	0.0	0.0	0.0	0.0	319.8	11%	693	65
Ripley	3	2	0.1	0.0	3.4	0.8	441.2	-9%	1723	173
Rush	0	0	0.0	0.0	0.0	0.0	237.6	1%	401	19
Saint Joseph	15	16	0.1	0.5	20.0	5.8	346.6	4%	1219	51
Scott	0	0	0.0	0.0	0.0	0.0	191.3	15%	1272	95
Shelby	1	0	0.0	0.0	0.4	0.2	287.4	2%	830	85
Spencer	0	0	0.0	0.0	1.2	0.3	365.4	2%	484	28
Starke	4	7	0.3	0.3	6.0	2.2	267.0	14%	1501	102
Steuben	86	253	7.2	8.1	75.3	24.2	310.8	-6%	2813	265
Sullivan	0	0	0.0	0.0	0.0	0.0	388.8	10%	1828	57
Switzerland	2	3	0.3	0.1	3.9	1.7	222.6	7%	1872	251
Tippecanoe	2	2	0.0	0.1	1.8	0.6	309.6	15%	1017	111
Tipton	0	0	0.0	0.0	0.0	0.0	99.1	9%	141	27
Union	0	0	0.0	0.0	0.0	0.0	130.3	-1%	621	34
Vanderburgh	4	4	0.0	0.2	5.5	3.2	175.0	1%	760	39
Vermillion	2	3	0.2	0.1	3.7	1.8	201.5	1%	1078	35
Vigo	3	4	0.0	0.1	4.9	1.3	369.9	9%	1514	47
Wabash	75	135	4.5	4.3	81.7	25.9	315.8	-22%	1375	126
Warren	2	3	0.3	0.2	1.4	0.7	196.3	24%	1077	102
Warrick	15	14	0.2	0.4	16.2	4.4	367.6	-9%	1338	40
Washington	4	4	0.1	0.1	7.1	1.4	509.0	7%	2318	190
Wayne	0	0	0.0	0.0	0.0	0.0	360.6	11%	1120	59
Wells	9	11	0.4	0.5	15.3	6.7	229.6	-3%	630	112
White	1	1	0.0	0.0	1.1	0.5	212.6	5%	953	72
Whitley	28	39	1.1	1.4	32.6	11.5	282.5	-5%	1050	95

Chronic Wasting Disease

Chronic wasting disease (CWD) is a neurodegenerative disease that affects members of the cervid family, including white-tailed deer (*O. virginianus*), mule deer (*O. hemionus*), elk (*Cervis elaphus*), moose (*Alces alces*), and reindeer (*Rangifer tarandus*). CWD is in a class of prion-caused diseases known as transmissible spongiform encephalopathies (TSEs), like mad cow disease in cattle or scrapie in sheep. Prions are misfolded proteins that cause lesions in the brains of infected animals. CWD is shed in the saliva, feces, and urine of infected deer and transmitted either by direct deer-to-deer contact or through contact with contaminated soil or other material.

Despite considerable ongoing research related to CWD, there is no effective cure or vaccine. CWD is fatal to infected cervids. CWD attacks the animal's brain and causes behavioral changes, excessive saliva production, and loss of appetite. It leads to progressive degradation of body condition and, eventually, death. CWD has a long incubation period that averages from 18 to 24 months between infection and clinical signs. Infected animals often appear healthy in the early stages of the disease. In advanced stages, however, they become abnormally thin or weak, and may lose fear of humans, stand with legs wide apart, and hold their head and ears low. Most infected individuals rarely live more than 2.5 years from the time they are infected until death (B. Richards, USGS National Wildlife Health Center, personal communication).

CWD was first detected as a clinical syndrome in 1967 in captive mule deer at a Colorado research facility. In 1978, CWD was determined to be a spongiform encephalopathy and was found in captive deer and elk in Wyoming. Three years later, the disease was observed in free-ranging elk in Colorado. By 2002, it had been detected in nine states (Colorado, Illinois, Kansas, Minnesota, Montana, Oklahoma, South Dakota, Wisconsin, and Wyoming) and two Canadian provinces. As of December 2021, CWD had been found in wild and/or captive cervid herds in 28 states, four Canadian provinces, Finland, Norway, South Korea, and Sweden (Richards 2021).

CWD has been detected in white-tailed deer in all states bordering Indiana: in wild and captive deer in Ohio, in wild and captive deer in Michigan, in wild deer in Illinois, and in wild deer in Kentucky (Richards 2021). Ohio confirmed its first case of CWD in a wild white-tailed deer in December 2020. The positive animal was found more than 60 miles from Indiana's eastern border (Ohio DNR 2020). In Michigan, the closest positive white-tailed deer was found approximately 30 miles from the Indiana border (Michigan DNR 2020). Illinois reported 176 new detections of CWD in wild deer during fiscal year 2020 (Dufford and McDonald 2020). The closest CWD cases in Illinois are approximately 25 miles from Indiana's western border. Kentucky confirmed its first case of CWD in a wild white-tailed deer in December 2023. The positive animal was found in Ballard County in western Kentucky, approximately 100 miles from the southern Indiana border.

Indiana's first positive case of CWD

In April 2024, Indiana DNR received confirmation of the first CWD positive sample found within the state's border. The sample was taken from a hunter-harvested deer through Indiana DNR's CWD Partner Incentive Program. The deer was an adult male harvested in LaGrange County in northern Indiana. This sparked the creation of a CWD Positive Area within the state, following the guidance of Indiana DNR's state-approved CWD response plan. The CWD positive area includes the county in which the positive was detected (LaGrange

County) and the three adjacent counties (Steuben, Noble, and DeKalb) due to the positive being detected in the Milford township of LaGrange County (Figure 6-3, Figure 6-4). As of January 2025, no additional positives have been detected in the state.

Upon detection, the CWD prevalence is estimated to be around 5% in LaGrange County based on samples collected from that county for surveillance in the 2023-2024 season (Figure 6- 5). This positive detection occurred in an "expected area" in the state, meaning an area of the state where Indiana's first detection was likely to occur based on its proximity to Michigan's positive detections. Per the state CWD response plan, a positive identified in an expected area will cause a rule change regarding permissible movement of live, wild deer and allow cervid farmers to request a permit to remove wild deer from their property in areas where CWD's apparent prevalence is greater than 5%. A permanent ban on movement of live, wild deer, particularly fawns for rehabilitation purposes, was enacted in the CWD positive area. This prevents the potential spread of CWD to other parts of the state through fawn rehab. The rule states that if a live, wild deer is found in the CWD positive area, it must remain in the CWD positive area, and a deer that is brought into the CWD positive area for rehabilitation must be released in the CWD positive area.

Another change after Indiana's first positive detection was the required testing of all deer harvested in the CWD positive area that were intended for donation through the state funded Hunt for Hunger program. Any deer brought to a processor participating in the program that was harvested in LaGrange, Steuben, Noble, or DeKalb counties and intended for donation must first be sampled, and the meat must be held until a negative test result is received.

Indiana's CWD Surveillance

Each year, Indiana DNR collects tissues from hunter-harvested deer throughout the state for CWD testing. Samples are collected as part of the statewide CWD surveillance program to monitor for the presence of the disease in Indiana.

In 2022, DNR targeted seven counties across the state for surveillance (Allen, Boone, Clark, Clinton, Harrison, Steuben, and Washington) based on the risk assessment (see 2021 Indiana White-tailed Deer Report). The methods for collecting CWD samples in 2022 included check stations at 10 meat processors on opening weekend, partnering with taxidermists in or around the target counties, or using CWD drop-off coolers at participating Fish & Wildlife Area (FWA), State Fish Hatchery (SFH), or National Wildlife Refuge (NWR) properties.

In 2023, DNR expanded the taxidermist program to reach areas that had not been sampled thoroughly in the past. The taxidermist program has proven to be a cost effective and efficient way to collect high value samples. In 2022, 20 taxidermists were signed up for the program across 16 counties, and 291 samples were collected by taxidermists. After expanding the program in 2023, the program had 56 taxidermists across 35 counties. These taxidermists collected 1,447 usable samples for the CWD taxidermist program for the 2023-2024 surveillance season.

In 2024-2025, hunter-harvested deer samples were collected using four methods:

1. Taxidermist Sampling Program
2. DNR Staffed Check Stations
3. Ball State University Partnership
4. DNR Fish & Wildlife Properties

Sick deer reported by the public are also tested through the statewide CWD surveillance program. The public was able to report sick deer online through the Sick/Dead Wildlife Report form.

Significant changes were made to DNR's taxidermist program, including changing the name to the Partner Incentive Program, with the idea to potentially expand the program to include meat processors or other stakeholders in future years. Other changes included having partners mail their samples to a DNR office rather than staff picking up samples, and taxidermists allowing DNR to advertise them as a location to get their deer tested, even if not performing taxidermy on the deer. This advertisement happened on DNR's CWD website (on.IN.gov/CWD) where DNR has its sampling locations map (Figure 6-6).

DNR provides CWD drop-off coolers at 24 properties across the state. Two new CWD drop-off coolers were added at properties this year, including one state park and one regional office (Figure 6-6). These coolers are checked by property staff, and samples are collected and sent to the DNR's wildlife health program in Bloomington, that staff of which prepares the sample for submission to the laboratory. In previous years, this sampling avenue has yielded a small number of samples; however, this year there was a five-fold increase in the number of samples collected at properties (2023-2024: 24 samples from properties; 2024-2025: 112 samples from properties).

DNR operated two check stations during the 2024-2025 season. Across two weekends in early November, DNR had wildlife health program staff at Crane Naval Base collecting CWD samples from Crane's veteran hunts. Additionally, during opening weekend of firearms season, DNR operated a check station at meat processors in the CWD positive area, in DeKalb County. These check-station efforts collected a total of 176 usable CWD samples (Table 6-2).

DNR also partners with a local university, Ball State, to collect CWD samples. Students in Ball State's The Wildlife Society (TWS) student chapter take full responsibility for organizing check stations, training, staffing, etc. in counties near their university. DNR will train participants at the beginning of the season as well as stock supplies. At the end of the season, Ball State TWS is compensated for its collections. This is not only beneficial to DNR, which is able to depend on Ball State to cover a particular area of the state, but also to the students who are learning surveillance coordination and fundraising for their program. This year, Ball State collected 113 usable samples for CWD surveillance and 98 samples for SARS surveillance (Table 6-3). Both sets of samples helped DNR reach its goals.

Hunters were also able to submit the heads or lymph nodes from their harvested deer directly to the Animal Disease Diagnostic Lab (ADDL) at Purdue University to be tested, for a fee. A few hunters used this method.

Samples collected by staff during these surveillance efforts were submitted to Purdue University's Animal Disease and Diagnostic Lab for ELISA (if frozen) and immunohistochemical (IHC) staining (if formalin fixed) procedures. Results were posted online for hunters to access using the confirmation number for that hunter-harvested deer. Any additional positive deer would have resulted in a phone call to the hunter before the results were posted online.

A total of 2,364 samples were collected between Feb. 1, 2024, and Feb. 1, 2025. Of these, 2,199 samples were hunter harvested, 11 were found dead, 10 were road killed, nine were sick, and 129 were targeted deer (Table 6-2). Targeted deer include deer culled by USDA for urban deer management and deer culled by Dunes National Park.

Of the 2,364 samples collected, 1,758 came from taxidermists (77% of samples), 113 from Ball State students, 123 from USDA/Dunes NP, 159 from properties/ DNR staff, 175 from DNR staffed check stations, 28 from meat processors for the Hunt for Hunger program, and eight came from unknown sources (Table 6-3). DNR used a weighted surveillance point system instead of a per sample surveillance goal. These point distributions were developed by Jennelle et al. 2018 using Bayesian weighted surveillance approach. The point goals are broken down by sex/age class of the deer harvested and its likelihood of detecting the disease. To reach a 5% prevalence target (i.e., to be 95% certain that the true CWD prevalence falls below a 5% prevalence), 58 points need to be collected. DNR applies this point goal to each county. Its CWD samples were collected from 90 counties across the state, meeting the point goal so far in 36 of those counties. Additionally, the CWD detectability rates were calculated for all 92 counties based on sampling intensity (Figure 6-7). The detectability provides DNR with a calculated prevalence of CWD in free-ranging deer for which there is a 95% probability the true prevalence falls below. For example, if CWD is present in the deer population in Kosciusko County, there is a 95% chance that it occurs in less than 0.84% of the population (Jennelle et al. 2018) based on DNR's sampling efforts.

To evaluate the effectiveness of the changes made to the partner program and the methods of sample collection (partner program versus DNR staffed check stations), a cost comparison between years was performed. This cost analysis included shipping costs, supplies, lab costs, and the taxidermist payments for the 2024-2025 season. The average cost for a taxidermist to collect a sample in 2023-2024 was $47.63. With changes made to the partner program, including shipping of samples, the 2024-2025 average cost per sample via the partner program was $44, approximately $3 per sample less than during the 2023-2024 season. DNR-staffed check stations cost approximately $116 per sample (2022 Indiana Deer Report).

To put cost per sample into perspective by point, this would equal approximately $13.60/point for taxidermist and $60/point for DNR-staffed check stations. In 2024-2025, taxidermists collected approximately 5,660 points toward CWD surveillance. To collect 5,660 points using a DNR-staffed check station, it would have cost $339,600. Using the Partner Sampling Program, the cost was approximately $76,976 for an estimated savings of $259,624.

Figure 6-3. DNR's newly created "CWD Positive Area" after detection of CWD in an adult male, hunter-harvested deer in LaGrange County. The positive area encompasses the county where the deer was detected and surrounding counties.

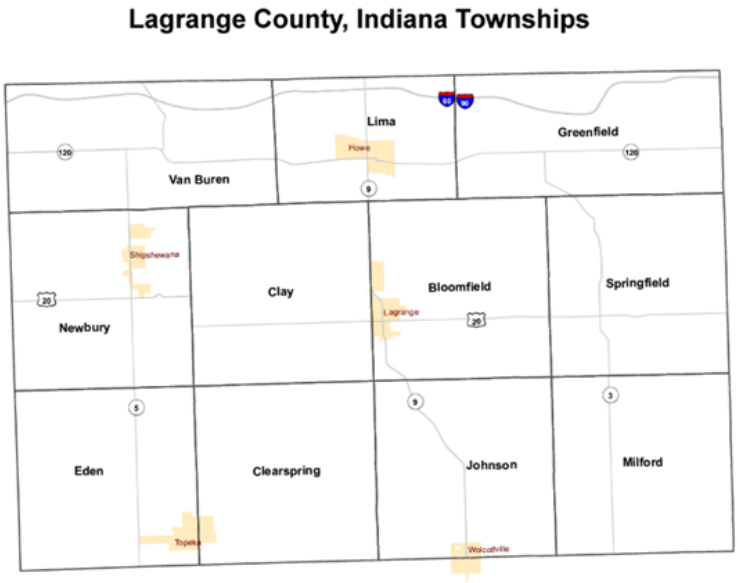

Figure 6-4. Township map for LaGrange County. Milford Township is where the CWD positive deer was harvested.

Figure 6-5. Statewide CWD detectability rates for the 2023-2024 deer hunting season. Detectability rate is based on sampling intensity. It is the level at which there is a 95% probability that the true prevalence rate of the disease falls below that level.

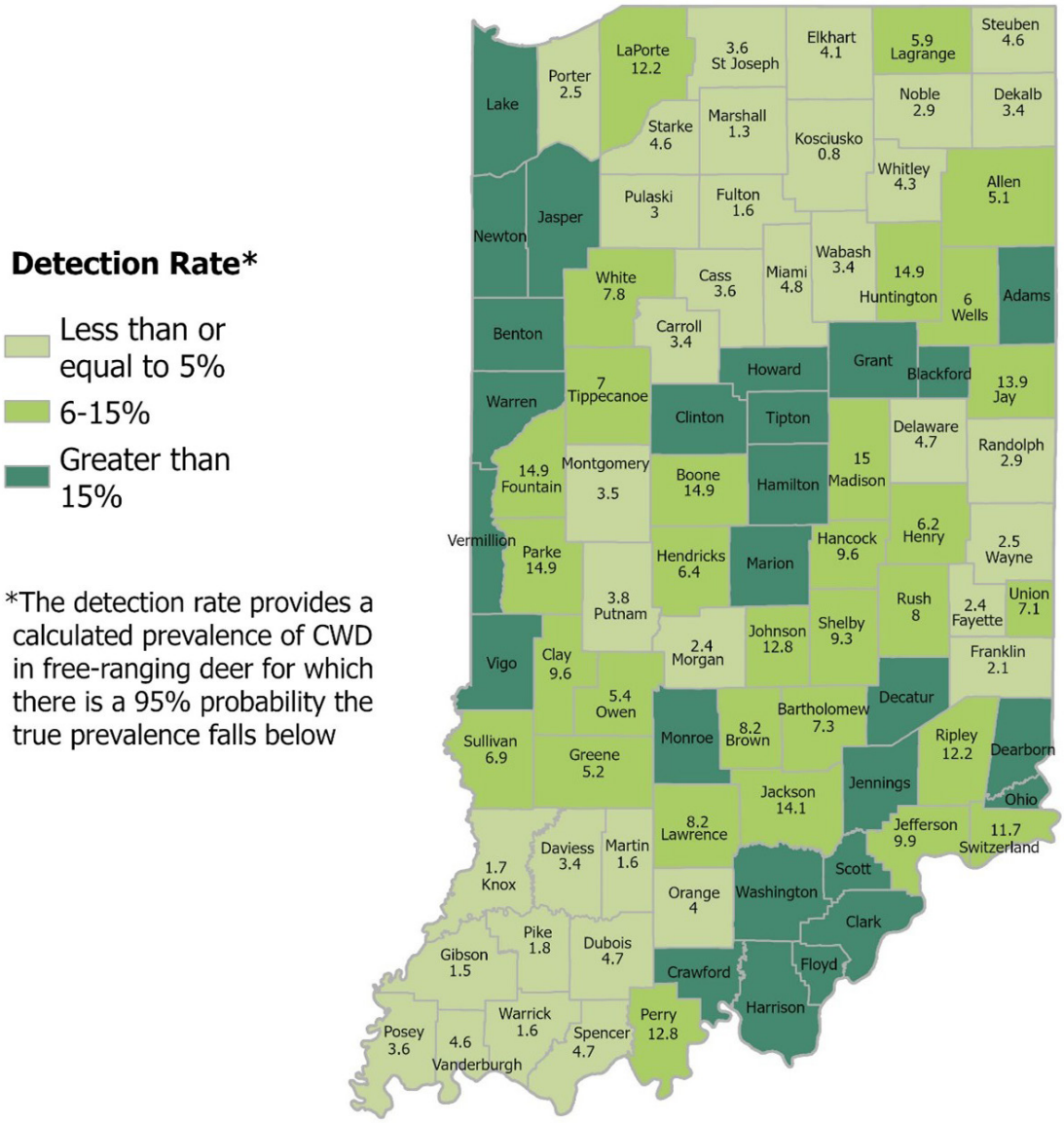

Figure 6-6. Indiana CWD sampling locations. Green squares represent taxidermists who are willing to be advertised for sampling, red diamonds represent CWD drop-off coolers at Fish &Wildlife properties, blue diamonds represent drop-off coolers at National Wildlife Refuges, yellow diamonds represent drop-off coolers at state fish hatcheries, and orange diamonds represent drop-off coolers at other DNR properties, including state parks and regional offices.

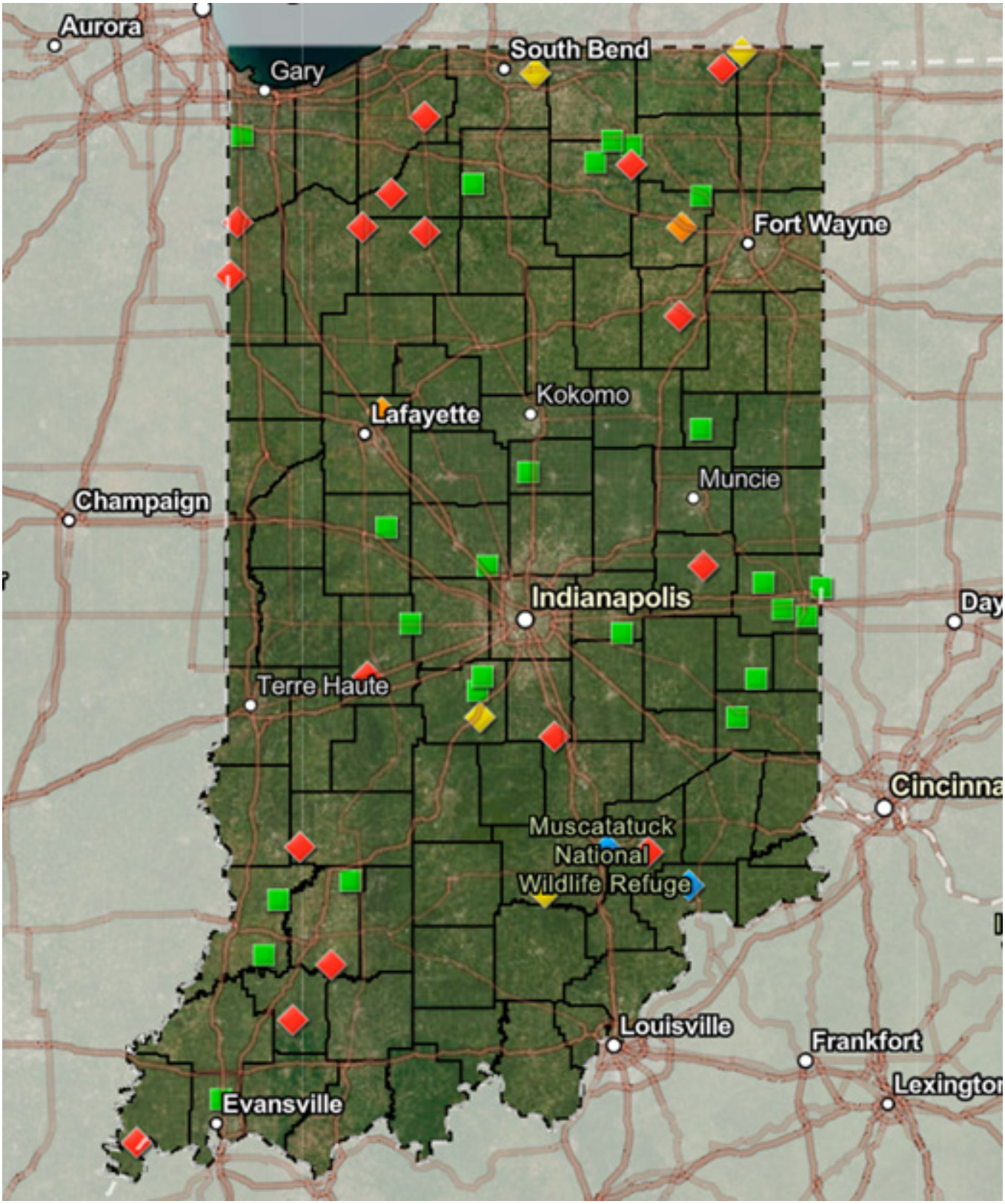

Figure 6-7. Statewide CWD detectability rates for the 2024-2025 deer hunting season. Detectability rate is based on sampling intensity. It is the level at which there is a 95% probability that the true prevalence rate of the disease falls below that level.

Detection Rate*

- Less than 5%
- 5%-15%
- Greater than 15%

*The detection rate provides a calculated prevalence of CWD in free-ranging deer for which there is a 95% probability the true prevalence falls below

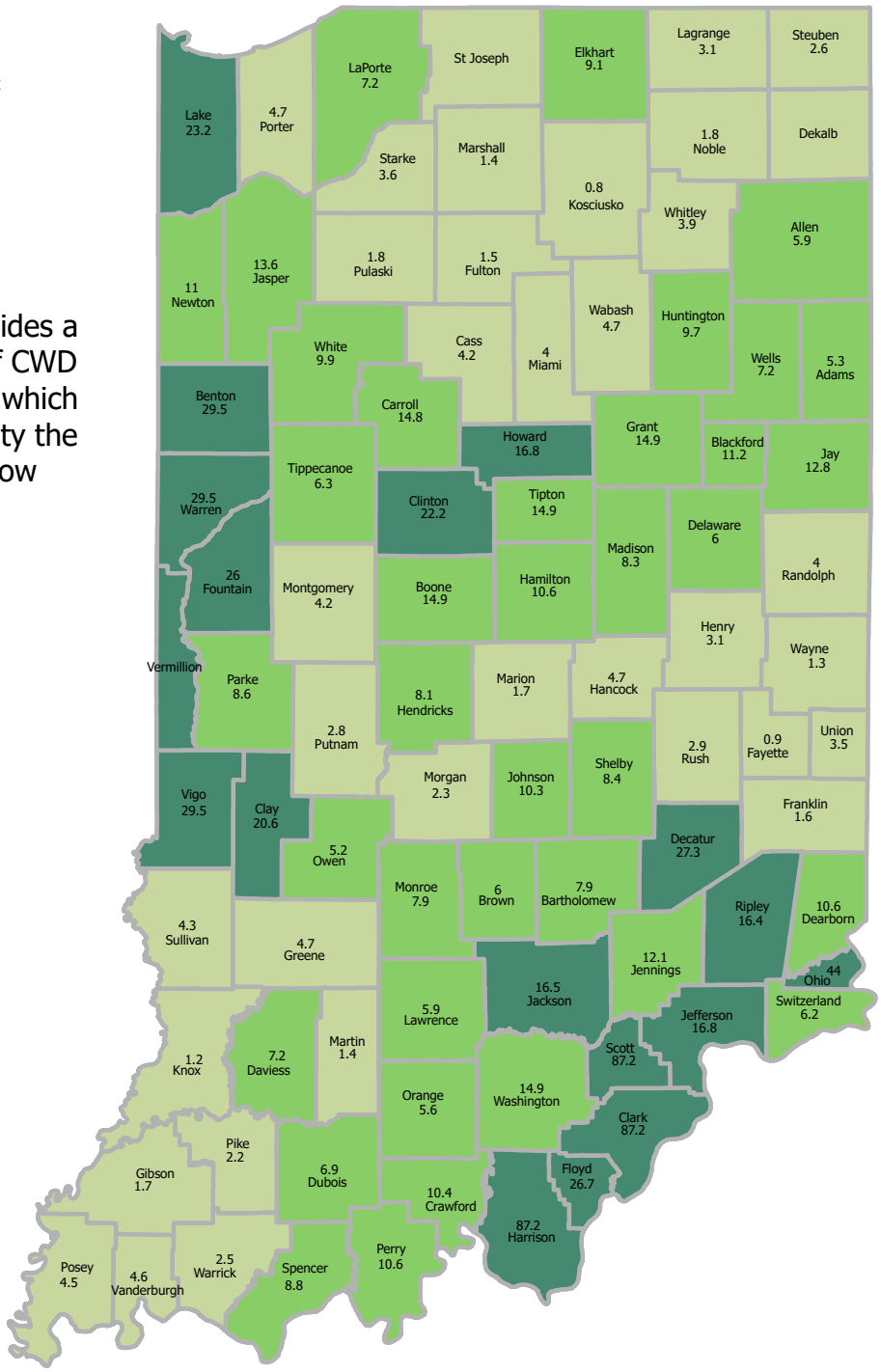

Table 6-2. 2024-2025 CWD Surveillance sample breakdown by collection method.

Method	Total Samples
Found Dead	11
Hunter harvested	2,199
NA	5
Opportunistic Sample	1
Road Killed	10
Sick Animal	9
Targeted Sample	129
Total Samples	2,364

Table 6-3. 2024-2025 CWD Surveillance sample breakdown by collector.

Collector	Total Samples
Ball State	113
Check Station	175
DNR	40
National Parks	32
Processor	28
Property	119
Taxidermist	1,758
Unknown	8
USDA	91
Total Samples	2,364

SARS-CoV-2 (Deer)

Indiana DNR's wildlife health program has actively been participating in the U.S. Department of Agriculture's (USDA) Animal and Plant Health Inspection Service (APHIS) surveillance of SARS-CoV-2 infection and exposure in white-tailed deer for the past two years. In February 2024, DNR was notified that a deer had tested positive for active infection of SARS-CoV-2. During the 2022-2023 surveillance year, SARS-CoV-2 antibodies were detected in 65 of 315 deer samples, which were 20.6% of samples tested. These positive blood samples indicated exposure to the virus, but not an active infection. Since we know the deer herd was previously exposed to the virus, it is not surprising that we have now detected an active infection in 2024. There is no evidence that animals, including deer, are playing a significant role in the spread of SARS-CoV-2 to people. Based on the available information, the risk of animals spreading SARS-CoV-2 that leads to COVID-19 in people is low. Additionally, there is no evidence that people can get COVID-19 by preparing or eating meat from an animal infected with SARS-CoV-2, including wild game meat hunted in the United States.

Bovine Tuberculosis Surveillance

Bovine tuberculosis (bTB) is a chronic disease caused by the bacterium *Mycobacterium bovis*. DNR and other state and federal partners test wild white-tailed deer for bTB because it was found in Franklin County cattle in 2008, 2009, and 2016, and in Dearborn County in 2011. The disease was also detected in

captive deer from a farm in Franklin County in 2009. Between 2009 and early 2021, a total of 4,144 wild hunter-harvested white-tailed deer were sampled in the bTB surveillance zones, and none of those deer tested positive for the disease.

In addition to testing hunter-harvested deer, small mammals and other deer have been sampled for bTB on the affected 2016 cattle farm or from lands within a 1.5-mile radius of that farm since 2017. In 2020, U.S. Department of Agriculture, Animal and Plant Health Inspection Service, Wildlife Services (USDA APHIS WS) collected 117 raccoons, 13 opossums, three groundhogs, and one skunk from that area as targeted clean-up. As of early 2021, the total number of non-hunter-harvested deer and small mammals sampled in that area is 111 deer, 180 raccoons, 33 opossums, three ground hogs and one skunk. One wild raccoon tested positive for bTB in 2017. Another wild raccoon tested positive for bTB in 2020.

Since the 2017-2018 deer hunting season, DNR has not conducted intensive bTB surveillance in Fayette and Franklin counties. However, DNR still responds to bTB suspect cases reported by the public (i.e., presence of nodules or lesions in the lung cavity). No bTB was detected from these investigations during the 2023-2024 deer hunting season.

Automated Animal Disease Report Form

The automated animal disease report form has remained active since its launch in mid-2020. The report form is used to track trends over time from reports of animals presenting with signs of disease or reports of animals that died under unusual circumstances. Deer are often the single most common animal reported. While reports of various animals come in year-round, the majority of reports about deer present between late July, when EHD becomes most prominent, and in December and January, when antlered deer commonly die from brain abscesses.

While the report form is a tool to assist biologists in locating sick or dead wildlife, it is the responsibility of the biologists to use the information provided to investigate what has caused the animal's condition. The biologists use evidence to hypothesize what happened to the deer, and the deer are then classified into seven different categories: suspected EHD, suspected respiratory infection, other disease, injury, nontarget, tumor, or unknown death. Anyone can report sick or dead deer directly to DNR through the online Sick or Dead Wildlife Report form (on.IN.gov/sickwildlife). This form is useful for tracking reports of sick deer with clinical signs consistent with diseases of interest, such as EHD and CWD. The person who reports a deer showing clinical signs of EHD, CWD, or other diseases of potential concern receives a phone call from a wildlife biologist or technician to verify the clinical signs and lack of obvious injury, assess if the animal's location is still known, and determine whether to collect a sample or submit the animal for testing, if necessary.

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Chapter 7.
2025 Deer Management Survey of the 2024-2025 Deer Hunting Seasons

Joe Caudell, Emily McCallen, and Carsten White, *Indiana Department of Natural Resources*

Understanding public opinion on topics and policies that affect deer hunting and deer management is an important part of the decision-making process for Indiana DNR. These data are used to set harvest regulations and to examine the potential effect of proposed regulatory changes. Since 2018, DNR has administered the Deer Management Survey to provide a convenient method for any interested hunter or nonhunter to share their opinions.

The Deer Management Survey consists of a core set of questions that remain the same every year to collect longitudinal data, with additional sets of unique questions that change each year to address emerging issues in state deer management. In the 2025 Deer Management Survey, the DNR asked several questions to assess the public's familiarity with the Turn in a Poacher (TIP) line and to determine hunters' opinions on muzzleloaders that are designed to allow the powder to be loaded from the breech end of the muzzle. The inclusion of specific questions should not be interpreted as a change or a desire for a particular regulation by DNR or the public.

The information gathered from these questions is often useful in answering questions from the public about DNR regulations, hunter behavior, and the need for programs designed to assist hunters (e.g., the hunter access program). This chapter reports the results of the 2025 Deer Management Survey on these topics across the state. Questions regarding the desires of hunters and nonhunters about the direction of the size of the deer herd, number of deer desired and taken, and other questions related to the deer population status at the scale of counties or deer management units are reported on the online Deer Management Survey Dashboard and can be queried by county or deer management unit at https://www.in.gov/dnr/fish-and-wildlife/wildlife-resources/animals/white-tailed-deer/deer-management-survey-results/.

Methods

The 2025 Deer Management Survey was sent to individuals who had previously participated in a Deer Management Survey, anyone who purchased a deer license or checked in a deer during the 2024-2025 deer season, and anyone who requested to receive the survey at https://idnr.az1.qualtrics.com/jfe/form/SV_8zYk5LBekr76lts. Because lifetime license holders and landowner hunters do not have to purchase a yearly license, they can only be surveyed if they harvest a deer or sign up on DNR's electronic system specifically to receive the survey. Because of this, lifetime license holders and hunters who only use their landowner exemption and do not harvest a deer are likely underrepresented in the survey. Survey invitations were distributed via email in February and March 2025. The survey was developed in the program Qualtrics, all survey results were downloaded in March 2025, and descriptive statistics were generated using Program R.

Results and Discussion

General Demographics of Respondents

The 2025 Deer Management Survey was sent to 380,152 individuals with a valid email address. Out of the surveys successfully sent, 22,454 surveys were started, a response rate of 5.91% (Table 7-1). Because much of the survey is dependent

upon potential respondents being assigned to a county for reporting, survey respondents had to include a county they hunted in or lived in to be included in the final data.

When residents of Indiana were asked ***Do you consider yourself a deer hunter even if you did not hunt during the 2024-2025 deer hunting season***, 16,858 residents indicated they were deer hunters, while 2,574 residents indicated they were not deer hunters but wanted to provide input on deer management where they live (i.e., were resident nonhunters; Table 7-2). Of the Indiana hunters, 14,910 hunted during the 2024-2025 deer season (i.e., were active resident hunters). An additional 1,948 did not hunt in the past season but still wanted to provide input on deer around where they live in Indiana (i.e., were inactive resident hunters). Of the nonresidents who responded to the survey, 850 reported they hunted during the 2024-2025 deer hunting season (i.e., were active nonresident hunters; Table 7-2).

Indiana hunters were asked about where they lived and hunted. Of the 14,262 hunters who responded, the most common responses were: "I hunt only in the county that I live in" (32.6%), and "I hunt mostly in the county that I live in, but I also occasionally hunt in other counties" (28.8%). These were followed by "I never hunt in the county that I live in, I only hunt deer in a different county" (21.7%). The remaining 16.9% "occasionally hunt in the county that I live in but mostly hunt in other counties."

Hunters were asked to select ***How many total years they had been a deer hunter and how many total years they have hunted deer in Indiana***. A total of 15,270 hunters reported the number of total years they had been a deer hunter. Most (69.5%) reported they had been a hunter for more than 20 years total, followed by 15.3% who reported 11-20 years deer hunting experience, 7.2% who reported 6-10 years hunting, 6.4% who reported 2-5 years hunting, and just 1.6% who reported that this was their first-year hunting deer. A total of 15,244 hunters reported the number of years they had hunted in Indiana. Most (60.7%) reported they had hunted deer in Indiana for more than 20 years, followed by 17.0% who reported 11-20 years of deer hunting in Indiana, 9.6% who reported 6-10 years hunting deer in Indiana, 9.9% who reported 2-5 years hunting in Indiana, and 3.0% who reported that this was their first year hunting deer in Indiana.

Respondents were asked to report on all types of equipment they used during the 2024-2025 deer season. A total of 15,697 hunters reported which type of equipment they used to hunt deer. The most common responses were high-powered rifles (58.0% of hunters), crossbows (43.6%), compound bows (36.6%), modern in-line muzzleloaders (29.2%), and shotguns (20.1%). Few respondents indicated that they used pistol-caliber rifles or other low-powered rifles (13.2%). Hunters used traditional muzzleloaders (7.4%), handguns (3.6%), traditional bows (2.8%), modern recurve bows (1.0%), and breech-loading muzzleloaders (1.0%) less often. Air rifles (0.1%) and arrow guns (0.1%) were used by less than 1% of hunters. Most deer hunters (33.8%) reported hunting with two types of equipment, while 32.1% hunted with one, and 23.6% hunted with three types of equipment. Only 10.5% of Indiana deer hunters used four or more types of equipment.

Hunters were asked to select which license(s) they used in the 2024-2025 deer hunting season. A total of 15,581 hunters reported which license they used to hunt deer. The most reported answer was the license bundle (44.5% of hunters) followed by the lifetime license (24.3%), landowner exemption (15.2%), and

firearm (12.3%). Few hunters used archery (7.9%), bonus antlerless (4.6%), deer reduction zone (3.7%), crossbow (4.2%), muzzleloader (1.9%), youth (0.9%), apprentice (0.3%), or military exemption (0.5%) licenses.

Hunters were asked to report how many deer they wanted to harvest in the 2024-2025 deer hunting season by selecting from harvest combinations that included both bucks and does. A total of 15,440 hunters responded to this question. Most respondents (79.8%) wanted to harvest a buck. The most common combination was one buck and one doe (28.5%), followed by just a single buck (22.4%) and one buck and two does (22.1%). Very few individuals wanted to harvest one buck and three does (4.3%) or one buck and more than three does (2.5%). Only 1.2% reported wanting to harvest only a single doe. In total, under a quarter of hunters wanted to hunt several deer regardless of its sex (one deer 5.7%, two deer 6.9%, three deer 4.0%, four deer 1.0%, and more than four deer 1.4%).

Perceptions about Deer Populations and Management

Both hunters and nonhunters responded to a series of questions about deer population sizes and how harvest should change. Hunters were asked ***How would you like to see the County Bonus Antlerless Quota change next year in [County] for the 2025-2026 deer hunting season?*** To avoid using terminology they may be unfamiliar with, nonhunters were asked ***How would you like to see the number of does that can be harvested by hunters change in the next year in [County]?*** (Figure 7-1). Hunters and nonhunters were asked ***Please describe the size of the deer population in [County] during the 2024-2025 deer hunting season*** (Figure 7-2), ***How does the number of deer you saw in [County] during the 2024-2025 deer hunting season compare to the number you saw five years ago?*** (Figure 7-3), and ***How would you like to see the number of deer change in the next five years in [County]?*** (Figure 7-4).

In the 2025 survey, asked about how quotas should change, most hunters and nonhunters thought quotas should be maintained (59.3% and 47.1%, respectively). During the past eight years, the proportion of hunters who want to see quotas decrease has fallen over time while the opinion of nonhunters has stayed relatively stable (Figure 7-1). Most hunters (50.1%) perceived the size of the deer population as low or too low, while only 20.7% of nonhunters felt the same. Conversely, 35.7% of nonhunters perceived the size of the deer population as high or too high, while only 8.7% of hunters felt the same. In both hunters and nonhunters, opinions about the size of the deer population have changed little over time (Figure 7-2).

Asked about how the deer population had changed during the last five years, most hunters thought it was substantially, moderately, or slightly decreasing (19.7%, 15.7%, and 20.5%, respectively), or being maintained (20.7%). Most nonhunters thought it was substantially, moderately, or slightly increasing (12.9%, 14.3%, and 18.4%, respectively), or being maintained (23.1%). Both hunter and nonhunter perceptions about changes in the deer population have moved toward a stable or increasing population since 2018 (Figure 7-3).

Asked how deer populations should change during the next five years, most hunters thought populations should increase to some degree (73.4%). Another 19.7% thought populations should be maintained. Responses from nonhunters were evenly distributed, with most indicating that the population should be maintained (33.3%). Fewer hunters have indicated that populations should be increased moderately or considerably over time (Figure 7-4). Nonhunters'

opinions showed no clear trend during the last eight years (Figure 7-4).

Hunters were asked a few attitudinal questions to rate their hunting satisfaction and experience. Hunters were asked, ***How do you think the total deer harvested in this hunting county has changed compared to five years ago?*** Most hunters reported that they thought total deer harvest had decreased (51.8%). An additional 27.8% reported they thought there was no change. Hunters were asked***, How does the number of deer you harvested in this hunting county in the most recent season compare to five years ago?*** Most hunters thought there was some degree of decrease (51.8%). More than a third of respondents (38.9%) thought there was no change. For both questions, the distribution of answers has been relatively stable, though fewer hunters perceived a considerable decrease in total or personal harvest over time (Figure 7-5). Hunters were also asked ***to describe the QUALITY of the bucks in this hunting county during the most recent deer hunting season***. Most (51.6%) hunters thought the bucks were of average quality, followed by low quality (27.2%). This hunter opinion has remained very stable since 2018 (Figure 7-6).

Respondents were also asked about attitudes toward management, including ***On a scale of 0 (terrible) to 100 (excellent), how would you rate the job the Indiana DNR is doing managing deer STATEWIDE?*** Nonhunters rated the DNR 75.4 ± 1.01 on average while hunters rated it 70.0 ± 0.44 on average out of 100 (Figure 7-7). Both nonhunters and hunters were asked the same question about how well DNR is managing deer in their county. On average, nonhunters rated the DNR at 75.7 ± 1.08, while hunters rated the DNR at 69.4 ± 0.47 out of 100 (Figure 7-8). Finally, hunters were asked, ***On a scale of 0 (no enjoyment) - 100 (great enjoyment), how would you rate your overall enjoyment of your hunting experience during the 2024-2025 deer hunting season?*** This rating has increased slightly since 2018 (Figure 7-9). Hunters rated their enjoyment, on average, at 80.7 ± 0.37 out of 100.

Table 7-1. The number of Deer Management Survey invitations sent to Indiana hunters and nonhunters, the number of surveys started, and the resulting survey response rates, 2018-2025.

	2018	2019	2020	2021	2022	2023	2024	2025
Survey Invitations Sent	269,389	370,986	469,044	346,048	1,012,126	801,760	820,307	380,152
Surveys Started	23,283	33,987	30,078	26,012	28,109	39,888	40,310	22,454
% Response rate	8.64	9.16	6.41	7.52	2.78	4.98	4.91	5.91

Table 7-2. Categories of individuals responding to the Deer Management Survey between 2018 and 2025.

Type	Description	Question Type	2018	2019	2020	2021	2022	2023	2024	2025
Active Nonresident Hunters	Nonresident Indiana deer hunters who hunted during the most recent deer season	County where they hunt	676	1,318	1,066	1,210	921	875	1,303	850
Active Resident Hunters	Resident Indiana deer hunters who hunted during the most recent deer season	County where they hunt and county where they live (when they differ)	14,839	22,604	16,894	18,340	15,157	24,747	24,495	14,910
Inactive Resident Hunters	Resident Indiana deer hunters who did not hunt during the most recent deer season	County where they live	2,752	3,859	3,528	2,252	3,047	6,937	5,146	1,948
Resident Nonhunters	Indiana residents who are not deer hunters	County where they live	2,343	2,574	3,718	1,983	4,458	5,125	7,128	2,574
Invalid Responses	Participants who were not qualified to take the survey (nonresident nonhunters) and participants who did not answer enough questions to be categorized.	None	2,673	3,632	4,872	2,227	4,526	2,204	2,238	2,172
Total Reported	Total sample included for data analysis	All	20,610	30,355	25,206	23,785	23,583	37,684	38,072	20,282

Figure 7-1. Hunter (a.) and nonhunter (b.) opinion on how the County Bonus Antlerless Quota should change the following year in Indiana.

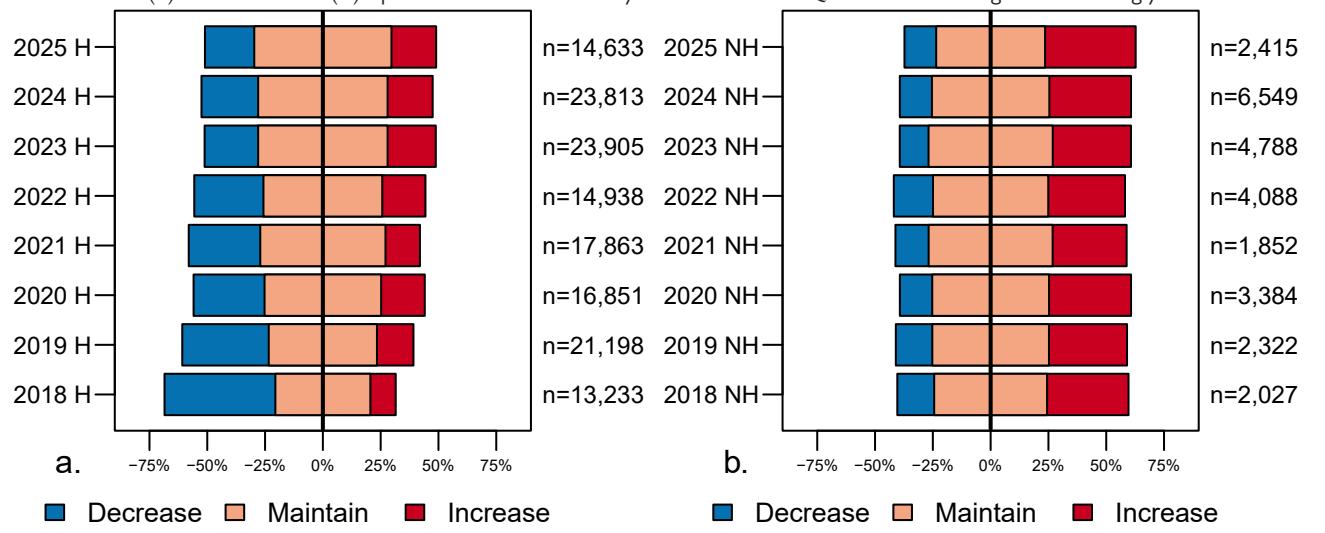


Figure 7-2. Hunters (a.) and nonhunters (b.) describe the current size of the deer population in the county where they hunt and/or live in Indiana.

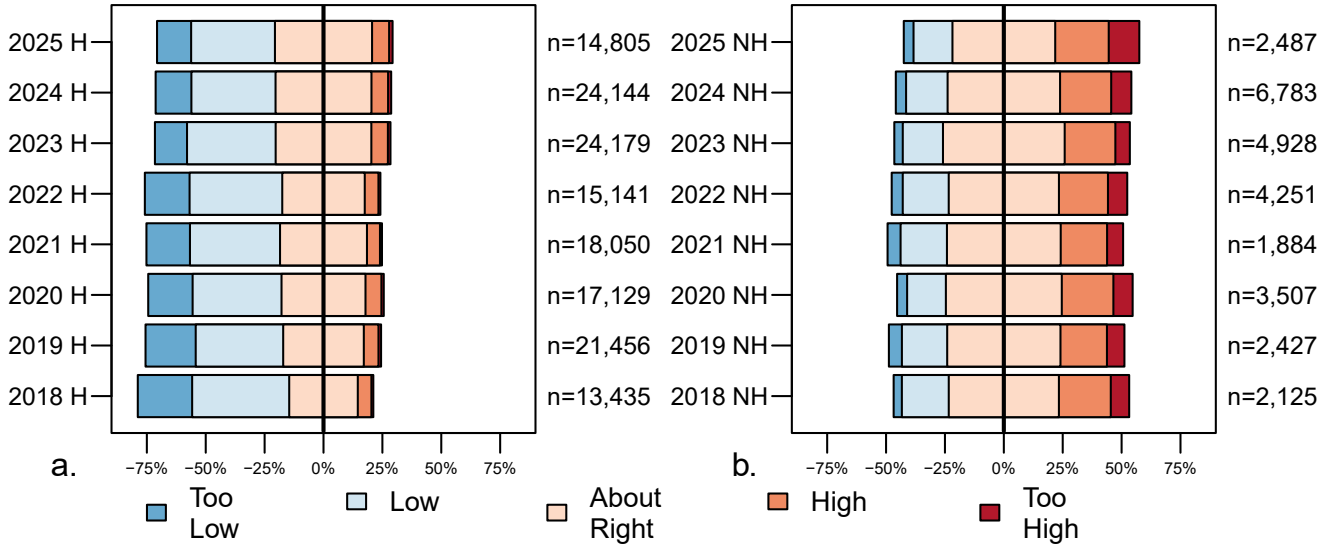


Figure 7-3. Hunters (a.) and nonhunters (b.) describe the number of deer seen now compared to five years ago in the county where they hunt and/or live in Indiana.

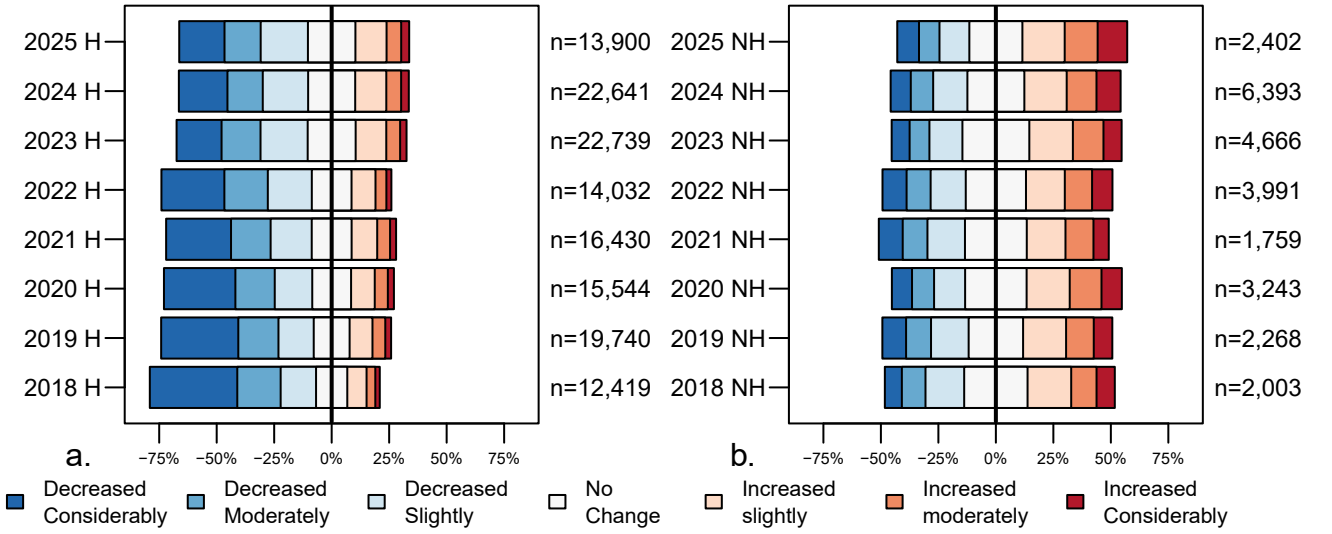


Figure 7-4. Hunters (a.) and nonhunters (b.) describe their desired change in the size of the deer population in the county where they hunt and/or live in Indiana.

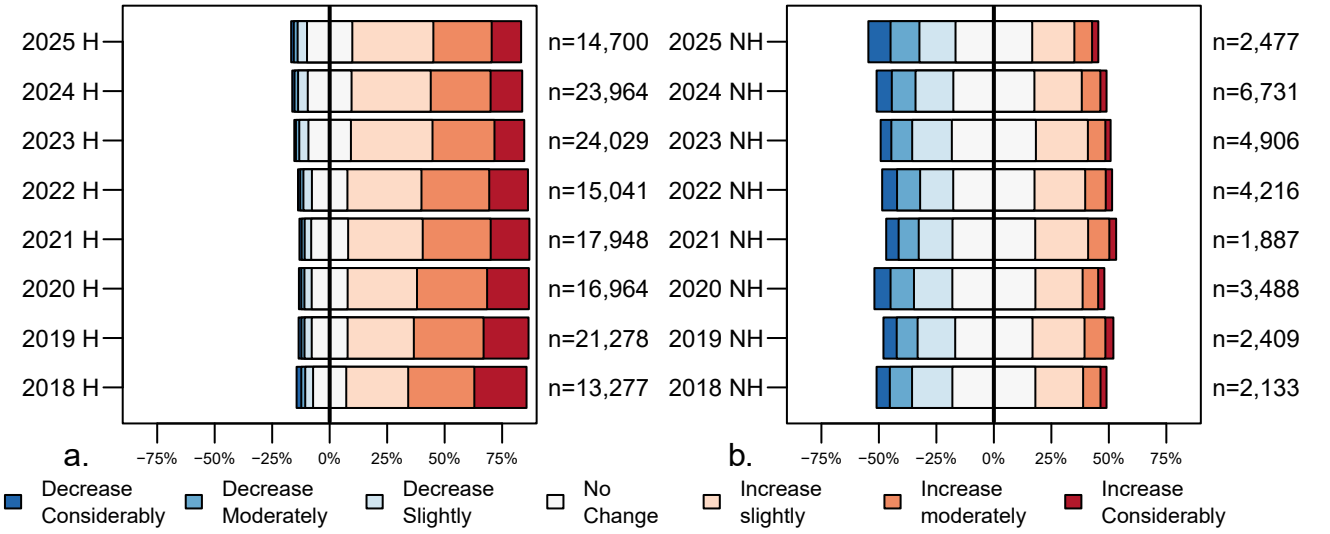


Figure 7-5. Hunter opinion on how the total number of harvested deer (a.) and their personal number of harvested deer (b.) in Indiana has changed over the last five years.

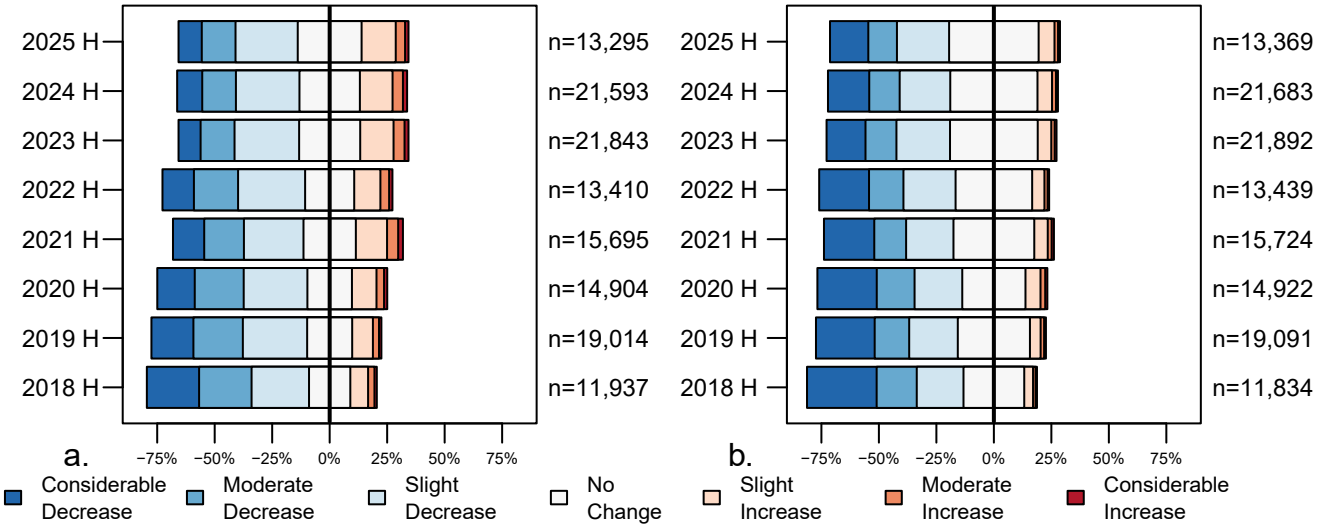


Figure 7–6. Hunters describe the quality of bucks in the county where they hunt in Indiana.

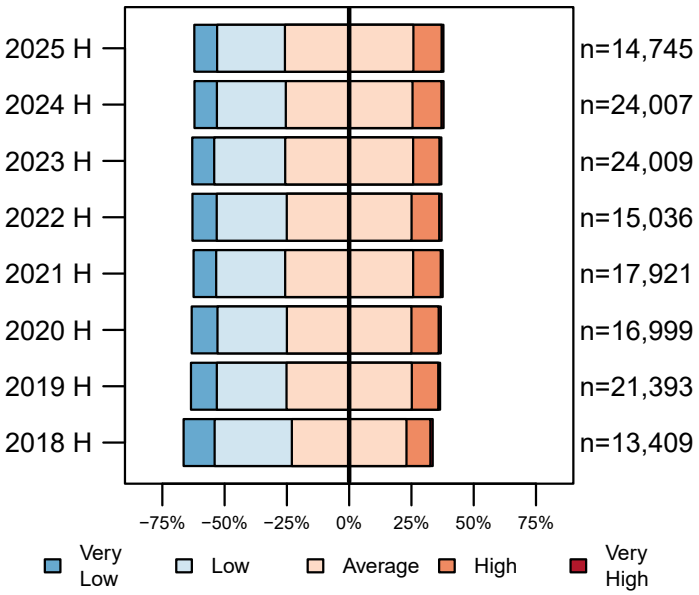


Figure 7-7. Hunters (a.) and nonhunters (b.) were asked to score the DNR's statewide deer management on a scale of 0 (poor) to 100 (excellent).

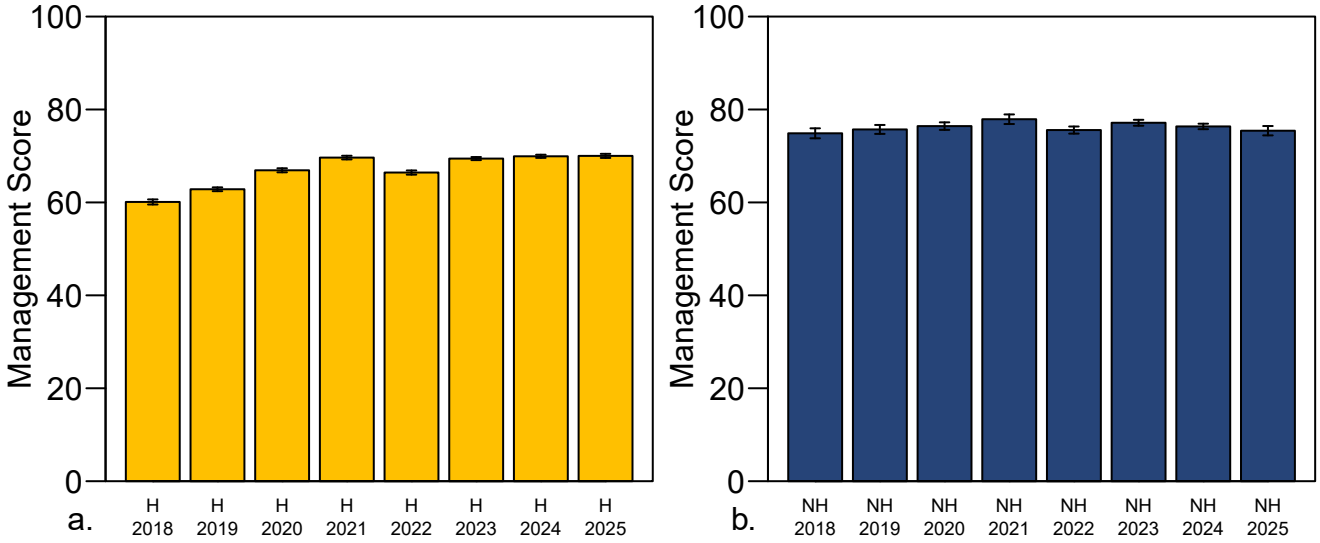


Figure 7-8. Hunters (a.) and nonhunters (b.) were asked to score the DNR's county deer management on a scale of 0 (poor) to 100 (excellent).

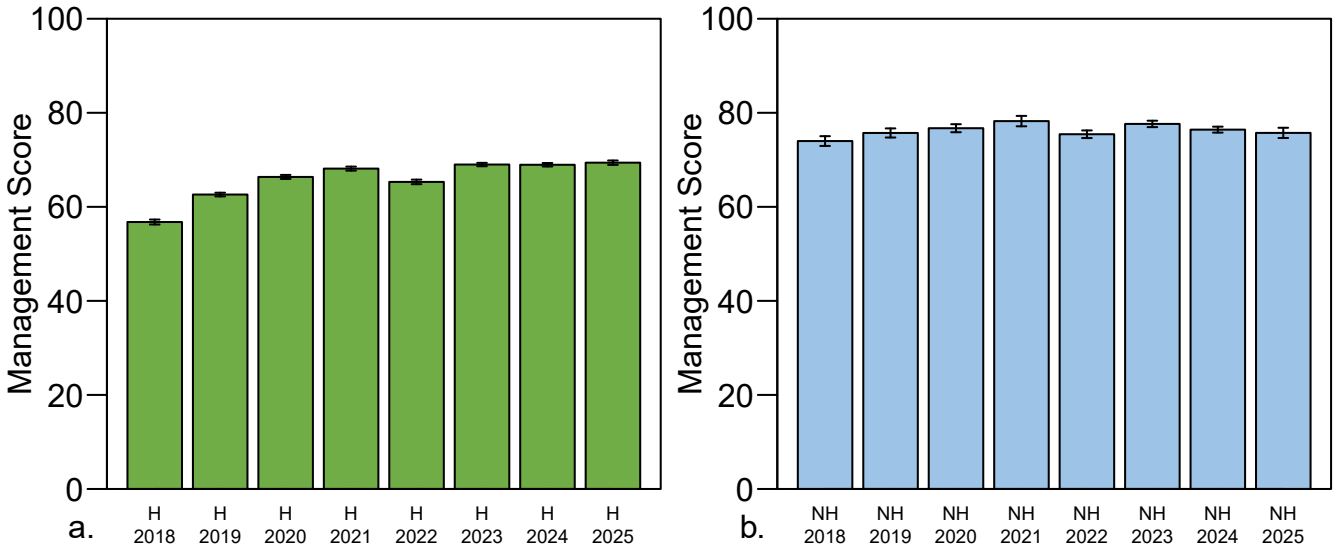
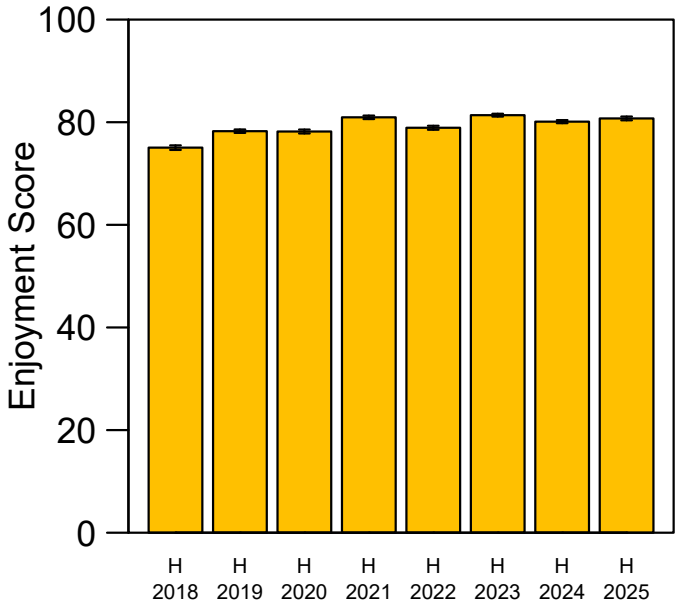


Figure 7-9. Hunters were asked to score their hunting experience on a scale of 0 (no enjoyment) to 100 (great enjoyment) during the previous Indiana deer season.



Chapter 8. Volunteer Monitoring

Volunteer monitoring is public participation in data collection and analysis of natural resources. The Indiana DNR seeks assistance from volunteers as an alternative way to collect data traditionally obtained by biologists. Volunteer monitoring provides people with an opportunity to participate in natural resource management and allows for collection of a wider set of data from a broader scale, thus saving DNR time and resources. Currently, the Deer Program relies on volunteers for two projects: the Archer's Index and the After Hunt Survey.

ARCHER'S INDEX

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Archery hunters play an important role in monitoring the abundance of furbearers and other wildlife species in Indiana. Since the early 1990s, Indiana archery hunters have voluntarily shared their wildlife observations with DNR to monitor trends in statewide wildlife populations. The partnership between archery hunters and DNR has provided a consistent and inexpensive method for monitoring many wildlife species. The DNR Furbearer Program currently manages the Archer's Index and has shared its data on deer observations for analysis in the White-tailed Deer Report. The complete Archer's Index report is available on a yearly basis and contains indices for several furbearer species. See previous Archer's Index reports at https://www.in.gov/dnr/fish-and-wildlife/wildlife-resources/wildlife-and-fisheries-reports/. Volunteers may sign up to participate in the Archer's Index at on.IN.gov/archersindex.

Methods

Before archery hunting season, hunters who volunteered to participate in the survey were sent a standardized survey form and directions for recording wildlife observations. Hunters were asked to record the number of hours they spent hunting each day, noting either morning or evening hunts, and the total number of each wildlife species observed daily.

Historically, the survey ended on the same day as the early archery season, typically in late November. However, regulation changes were implemented in 2012 that extended the archery season to one continuous season that ended in early January. Since then, the Archer's Index has ended one day prior to the opening of firearms season to ensure an unbiased and standard survey period. After the end of the survey period, participants returned their completed survey form to DNR.

Population indices were tabulated by dividing the total number of each wildlife species sighted by the total number of hours hunted. Observations per hour, fawn-to-doe ratios, and doe-to-buck ratios were calculated statewide and at a regional level based on the 10 deer management units (DMU) the Deer Program created, in partnership with Purdue University, to better understand deer trends across broad habitats. Statewide results are reported in this section, and regional results are reported in the DMU Data Sheets section. Bootstrapped confidence intervals (CI_{95}) were calculated for observations per hour each year.

Results and Discussion

In 2024, a total of 311 hunters in 88 counties reported deer observations in the Archer's Index. Hunters observed a total of 14,167 deer in 14,749 hours during 4,485 observational periods ranging from 0.25 to 12 hours. Hunters observed

an average of 1.00 deer per hour (CI_{95}=0.97 – 1.04; Figure 8-1). A total of 3,829 bucks, 5,726 does, 3,364 fawns, and 1,248 deer of an undetermined age and sex were observed. From the Archer's Index, the statewide fawn-to-doe ratio was 0.58:1 (CI_{95}=0.56 – 0.61), and the doe-to-buck ratio was 1.50:1 (CI_{95}=1.44 – 1.56). Comparatively, the harvest doe-to-buck ratio was 0.79:1 (CI_{95}=0.78 – 0.80; Figure 8-2).

The Archer's Index provides several trends or indices of the size, composition, and recruitment of the deer population and may be useful for monitoring how these populations change over time. However, because these values have not been measured against a known population, it is unclear how closely the values from these indices reflect true population values. Therefore, the results of the Archer's Index can only be used to monitor trends of deer population and not the actual size. One potential bias proposed by critics of volunteer monitoring observer indices is that fawn observations may be underrepresented. Older fawns can look like young does, especially if the fawns are not traveling with their doe. Thus, fawn-to-doe ratios and recruitment data may become skewed. However, the period when the Archer's Index occurs (October to mid-November) is considered an ideal time, because bias from fawns not traveling with their mother is minimized. Fawns are likely at their smallest body size, routinely traveling with their mother, and loss of the parent is minimized prior to firearms season. Furthermore, if the fawn-to-doe ratios are biased in favor of does, due to misidentified fawns, then the doe-to-buck ratio would likewise be skewed toward does. This does not appear to be the case for DNR's data, as doe-to-buck ratios are between 1.3:1 and 2.0:1 in most areas (see DMU sheets in the Appendices).

Fawn recruitment is the number of fawns that are born and survive to join the huntable population in the fall. The recruitment value is lower than the total number of fawns born each spring. Fawns die or are killed between birth and the hunting season due to predation, disease, exposure, abandonment, deer-vehicle collisions, haying operations, and other reasons. Therefore, the recruitment rate is almost always lower than the birth rate. For example, the reproductive characteristics of does were recently studied in Illinois. Green et al. (2017) found an average of 20.5% of recruited fawns and 85.5% of adult does were bred by the end of the breeding season. Their average litter size was 1.9 ± 0.54 fawns. In 2015, Illinois reported its statewide recruitment, based on its fawn-to-doe ratio, was 0.5:1 (QDMA 2016). Even though a large proportion of deer were bred, resulting in a high rate of births, fawns experienced a high rate of mortality. Fawn recruitment values can be used for several different purposes, including modeling for allowable buck and/or doe harvest and as an indicator of potential problems with a deer herd, such a slow growth rate.

Initially, it may appear that fawn-to-doe ratios are low for many of the DMUs and statewide. However, Indiana has similar fawn-to-doe ratios compared to nearby states, according to the 2015 recruitment data reported to QDMA (2019): Ohio (0.60:1), Illinois (1.18:1), Michigan (0.47:1; QDMA 2015), or the Midwest average (0.81; QDMA 2019). Although these reported ratios are similar, caution should be taken when directly comparing fawn-to-doe ratios across states, because the respective methodologies they use to calculate the fawn-to-doe ratios differ. These differences are often based on how the data have been historically collected. For example, Ohio uses the ratio of fawns to does in the harvest, whereas Wisconsin calculates its fawn-to-doe ratios on a regional basis, using the total number of biologist observations of fawns and does (0.90:1 in 2017; QDMA 2019). It may seem that all states should use the same system, but for each

state's deer management program, the long-term trend (i.e., index) is more important than a comparison with neighboring states. Therefore, readers must understand how the data are collected in other states before comparing it to Indiana's fawn-to-doe ratios.

Currently, Indiana has an approximately balanced pre-hunt sex ratio (1.5:1). Balanced doe-to-buck ratios are generally considered to be desirable, because they increase the likelihood of all does being bred during the period when they are most receptive, a more condensed rut, and an earlier fawning season (Guynn and Hamilton 1986; Neuman et al. 2017).

Observations per hour is an index that can be used to examine long-term trends in the deer population. It is important to understand that this is an index of the population and does not represent population numbers or an expectation for hunters (i.e., if the average reported observations per hour is 1.00, hunters should not expect to see a deer every hour they are in the woods). Observations per hour for bucks have been level since 2011 but have increased slightly over time for total deer (Figure 8-1).

Figure 8-1. Annual average observations per hour of bucks and total deer reported in the Archer's Index.

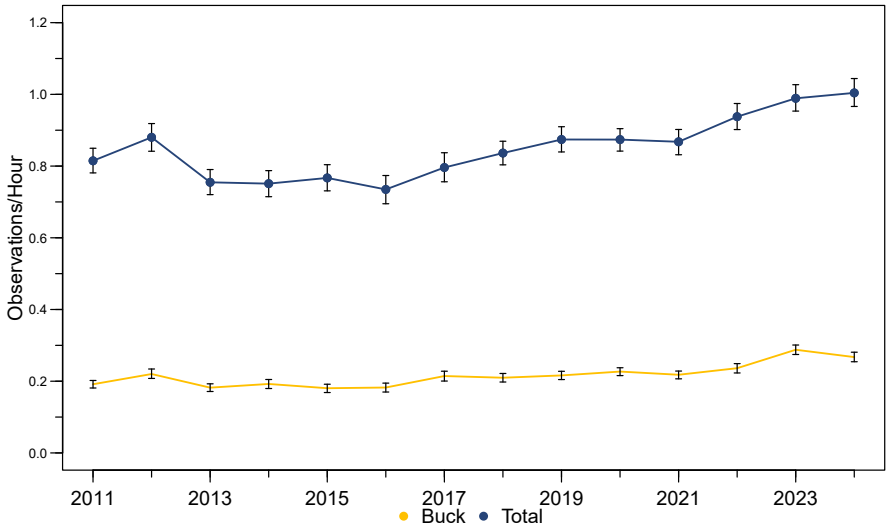
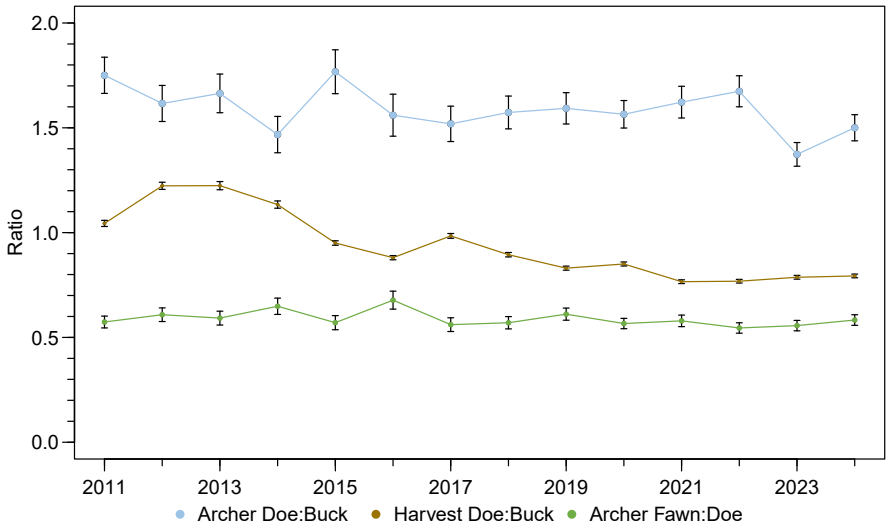


Figure 8-2. Statewide observation of doe-to-buck and fawn-to-doe ratios reported in the Archer's Index and the reported doe-to-buck harvest ratio from CheckIN Game data.



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AFTER HUNT SURVEY

Joe N. Caudell and Emily McCallen, *Indiana Department of Natural Resources*

For many years, Indiana DNR biologists examined deer at check stations where hunters brought their deer to record their harvest. Biologists recorded age, sex, and other biological information that was useful for managing the deer herd. In 2015, Indiana moved to an online system, CheckIN Game, to make the process more convenient for hunters. The After Hunt Survey was created in 2017 to allow hunters the opportunity to continue providing biological information about their harvested deer. The goal of the After Hunt Survey is for hunters to self-report on enough deer so that both hunters and managers can examine deer population biology, ecology, and demographics at the county level. The 2024-25 deer season was the eighth year the After Hunt Survey was available. Because the sample size for most counties was insufficient to report results at the county level, results are reported at regional and statewide levels.

Methods

The After Hunt Survey was administered using Qualtrics, an electronic survey system. Hunters were asked to participate in the survey after they had checked in their deer. They could also access the survey later by visiting deer.dnr.IN.gov and clicking on the After Hunt Survey link under Deer Management. Questions were asked about the equipment used to harvest the deer, the location of harvest, the number of hours spent hunting for that deer, the hunter's opinion of that hunt, and biological information for that deer.

Results and Discussion

Sample Size. A total of 3,451 hunters responded. At least one response was received from each county; the highest number of responses was 89 from Noble County, and the smallest was from Rush and Shelby counties, with eight reports each. To be able to assess data at the county level, 80-120 responses are needed from each county, depending on the number of categories for each question. If these numbers aren't obtained, data can be analyzed at a regional level based on nine of Indiana's 10 Deer Management Units (DMUs; see Figure 3-6). The number of responses per DMU ranged from 13 (Urban Unit) to 768 (South Unit; Table 8-1).

Deer Ages. Hunters were asked to age their deer using tooth wear and replacement patterns. Excluding incomplete responses, hunters did not report the ages of 297 does and 644 bucks, including 170 bucks that were going to be mounted. In total, hunters reported the age of 457 does and 730 bucks. Statewide, most deer were reported as 2.5 years old (Figure 8-3). There was an insufficient number of aged deer reported to summarize the age structure at the county level. Regional age structures were like the statewide distribution with a few exceptions (Table 8-2) because of the small sample size in many deer management units.

Lactation Rates. Lactation rates provide an estimate of fawn recruitment, which is especially useful in setting harvest quotas. Low fawn recruitment may warrant a change to quotas because it indicates fewer deer are surviving and entering next year's population. During the 2024-25 season, 1,196 hunters who harvested a female deer reported that 27.2% were lactating, and 52.2% were not. Lactation rates for does age 2.5 years or older obtained from all previous After Hunt Surveys depict a gradual decline as the season progresses. To report lactation rates at the county or regional level, especially for one season, the number of responses must increase substantially. The variation that results from the small sample size obtained does not allow for a reliable estimation of recruitment.

Hunter Experience. The After Hunt Survey asks several questions related to a particular hunting experience. On a scale of 0 (poor) to 100 (excellent), hunters were asked to rate their overall enjoyment of the hunt, the number of does and bucks they saw on the hunt, the quality of those bucks they observed, and how they felt DNR is managing deer in the county in which they hunt. In general, responses from quality of bucks, quantity of bucks, and quantity of does were bimodal, meaning most responses were either at the low end or the high end of the scale. Responses separated by public and private land are in Table 8-3.

Antler Characteristics. Hunters reported 89.8% of the bucks harvested on private land had a typical rack; the remaining 10.2% were nontypical. Hunters reported 90.0% of the bucks harvested on public land had a typical rack; the remaining 10.0% were nontypical.

The average number of points reported from harvested bucks were similar on both public and private land (Table 8-4). The average total inches of antler, defined as the length of the main beam plus the length of each of the tines as measured from the center of the main beam along the longest portion of the tine, averaged 83.3 inches on private land and 74.0 inches on public land (Table 8-4).

Body Weights. Body weights can provide valuable information about the quality of deer and the relationship of recruitment to nutrition if data are frequently reported on small scales (i.e., county or 16-mile^2 grid level). Hunters reported the field-dressed weight of their deer only if it had been weighed on a scale (Table 8-4). Live weights can be estimated by multiplying the field-dressed weight by 1.26 as reported in Smart et al. (1973). The number of responses was insufficient to summarize body weights by age class at either the county or regional level. Self-reporting of deer body weights by hunters needs to be significantly higher for this factor to inform management.

Hunter Effort. The number of hours it takes to harvest a deer can be used to calculate harvest per unit effort, which can serve as an index for deer population size. Because this index may have an inherent selective bias, it should be viewed with caution. For example, hunters may spend more time harvesting a particular buck than they would to harvest a doe. Hunters reported they hunted an average of 26.4 hours on private land and 24.2 hours on public land before harvesting their buck (Table 8-5). During this time, hunters saw an average of 8.3 bucks on private land and 3.7 bucks on public land. Hunters reported they hunted an average of 16.6 hours on private land and 14.3 hours on public lands before harvesting their doe. During this time, hunters saw an average of 5.7 does on private land and an average of 3.2 does on public land (Table 8-5).

The After Hunt Survey has potential to provide valuable biological information from harvested deer, including age, sex, and reproductive status. It may also be used to develop an index of harvest per unit effort; however, additional research is needed to evaluate the utility of harvest per unit effort as an accurate estimator of population size. Reporting must increase significantly before information collected in the After Hunt Survey can be reliably applied at the regional, county, or subcounty level. Increasing promotion of the survey in the annual Indiana Hunting & Trapping Regulations Guide, media outlets, and on social media will help ensure enough responses are obtained so this information can be used for management purposes.

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Smart, C. W., R. H. Giles, Jr., and D. C. Guynn, Jr. 1973. Weight tape for white-tailed deer in Virginia. Journal of Wildlife Management 34:553-555.

Table 8-1. Number of After Hunt Survey responses by Deer Management Unit, 2024-2025.

Deer Management Unit	Number of Counties in Unit	Number of Responses	% of total responses
Dearborn Upland	3	111	3.2%
East Central	28	653	18.9%
Muscatatuck Plateau	4	167	4.8%
Northeast	4	260	7.5%
Northwest	13	656	19.0%
South	16	768	22.3%
Southwest	9	296	8.6%
Urban	1*	13	0.4%
Wabash Valley	6	248	7.2%
West Central	9	279	8.1%
Total Responses		**3,451**	

Table 8-2. Age distribution of harvested bucks and does by Deer Management Unit reported in the 2024-25 After Hunt Survey.

	Female (doe)		Male (buck)	
DMU and Estimated Age	% for DMU	Number of reports	% for DMU	Number of reports
Dearborn		16		24
0.5 years old (a fawn)	0.0%		8.3%	2
1.5 years old (a yearling)	18.8%	3	8.3%	2
2.5 years old	56.3%	9	33.3%	8
3.5 years	18.8%	3	29.2%	7
4.5 years	0.0%		16.7%	4
5.5 years or older	6.3%	1	4.2%	1
East Central		77		144
0.5 years old (a fawn)	9.1%	7	6.9%	10
1.5 years old (a yearling)	18.2%	14	20.8%	30
2.5 years old	48.1%	37	38.2%	55
3.5 years	13.0%	10	18.8%	27
4.5 years	7.8%	6	12.5%	18
5.5 years or older	3.9%	3	2.8%	4
Muscatatuck		30		42
0.5 years old (a fawn)	0.0%		14.3%	6
1.5 years old (a yearling)	23.3%	7	11.9%	5
2.5 years old	43.3%	13	35.7%	15
3.5 years	30.0%	9	16.7%	7
4.5 years	3.3%	1	9.5%	4
5.5 years or older	0.0%		11.9%	5
Northeast		31		52
0.5 years old (a fawn)	9.7%	3	7.7%	4
1.5 years old (a yearling)	25.8%	8	19.2%	10
2.5 years old	45.2%	14	34.6%	18
3.5 years	9.7%	3	21.2%	11
4.5 years	9.7%	3	13.5%	7
5.5 years or older	0.0%		3.8%	2
Northwest		86		121
0.5 years old (a fawn)	4.7%	4	8.3%	10
1.5 years old (a yearling)	31.4%	27	15.7%	19
2.5 years old	47.7%	41	37.2%	45
3.5 years	12.8%	11	24.0%	29
4.5 years	1.2%	1	10.7%	13
5.5 years or older	2.3%	2	4.1%	5

	Female (doe)		Male (buck)	
DMU and Estimated Age	% for DMU	Number of reports	% for DMU	Number of reports
South		102		177
0.5 years old (a fawn)	3.9%	4	5.6%	10
1.5 years old (a yearling)	24.5%	25	15.3%	27
2.5 years old	44.1%	45	29.9%	53
3.5 years	20.6%	21	27.7%	49
4.5 years	5.9%	6	16.4%	29
5.5 years or older	1.0%	1	5.1%	9
Southwest		48		54
0.5 years old (a fawn)	6.3%	3	0.0%	
1.5 years old (a yearling)	18.8%	9	16.7%	9
2.5 years old	45.8%	22	33.3%	18
3.5 years	20.8%	10	31.5%	17
4.5 years	6.3%	3	11.1%	6
	2.1%	1	7.4%	4
Urban		1		2
0.5 years old (a fawn)	0.0%		50.0%	1
1.5 years old (a yearling)	0.0%		50.0%	1
2.5 years old	100.0%	1	0.0%	
Wabash		29		52
0.5 years old (a fawn)	0.0%		3.2%	2
1.5 years old (a yearling)	27.0%	10	9.7%	6
2.5 years old	29.7%	11	27.4%	17
3.5 years	16.2%	6	29.0%	18
4.5 years	2.7%	1	14.5%	9
5.5 years or older	2.7%	1	0.0%	
West Central		37		62
0.5 years old (a fawn)	8.1%	3	3.2%	2
1.5 years old (a yearling)	27.0%	10	19.4%	12
2.5 years old	43.2%	16	35.5%	22
3.5 years	16.2%	6	30.6%	19
4.5 years	5.4%	2	8.1%	5
5.5 years or older	0.0%		3.2%	2

Table 8-3. Opinions of enjoyment of hunting trip, number of does seen, number of bucks seen, quality of bucks seen while hunting on a scale of 0 to 100 reported in the 2024-25 After Hunt Survey, including 95% confidence intervals (CI). Opinions of how well the DNR is managing deer in the county where the respondent hunted is also reported.

Enjoyment of Hunting Trip			
	Number of Responses	Average Score	95% CI
Private land	3,112	91.5	0.5
Public land	317	90.2	1.5

Number of Does Seen While Hunting			
	Number of Responses	Average Score	95% CI
Private land	3,112	66.0	1.2
Public land	317	56.5	3.9

Number of Bucks Seen While Hunting			
	Number of Responses	Average Score	95% CI
Private land	3,112	58.3	1.2
Public land	317	54.1	4.0

Quality of Bucks Seen While Hunting			
	Number of Responses	Average Score	95% CI
Private land	3,112	60.5	1.2
Public land	317	55.3	3.9

How Well is DNR Managing Deer in the County Hunted			
	Number of Responses	Average Score	95% CI
Private land	3,112	75.9	0.9
Public land	317	72.1	3.1

Table 8-4. Antler characteristics and body weights of deer on public and private land. The number of responses (n), average, and 95% confidence interval (CI) are reported separately for public and private land.

Number of right side points			
	n	average	95% CI
Private land	1,597	4.1	0.1
Public land	160	3.9	0.2

Number of left side points			
	n	average	95% CI
Private land	1,595	4.0	0.1
Public land	161	3.8	0.2

Inside spread (inches)			
	n	average	95% CI
Private land	1,199	13.5	0.3
Public land	135	12.2	0.8

Total inches			
	n	average	95% CI
Private land	698	83.3	4.1
Public land	85	74.0	12.1

Dressed weight adult deer (lbs)			
	n	average	95% CI
Private land	1,631	132.7	2.7
Female (doe)	628	106.0	3.5
Male (buck)	1,003	149.5	3.3
Public land	160	121.2	8.4
Female (doe)	56	95.7	10.9
Male (buck)	104	135.0	10.6

Table 8-5. Hours spent hunting bucks and does on public and private land and number of does and bucks seen while hunting. The number of responses (n), average, and 95% confidence interval (CI) are reported separately for public and private land

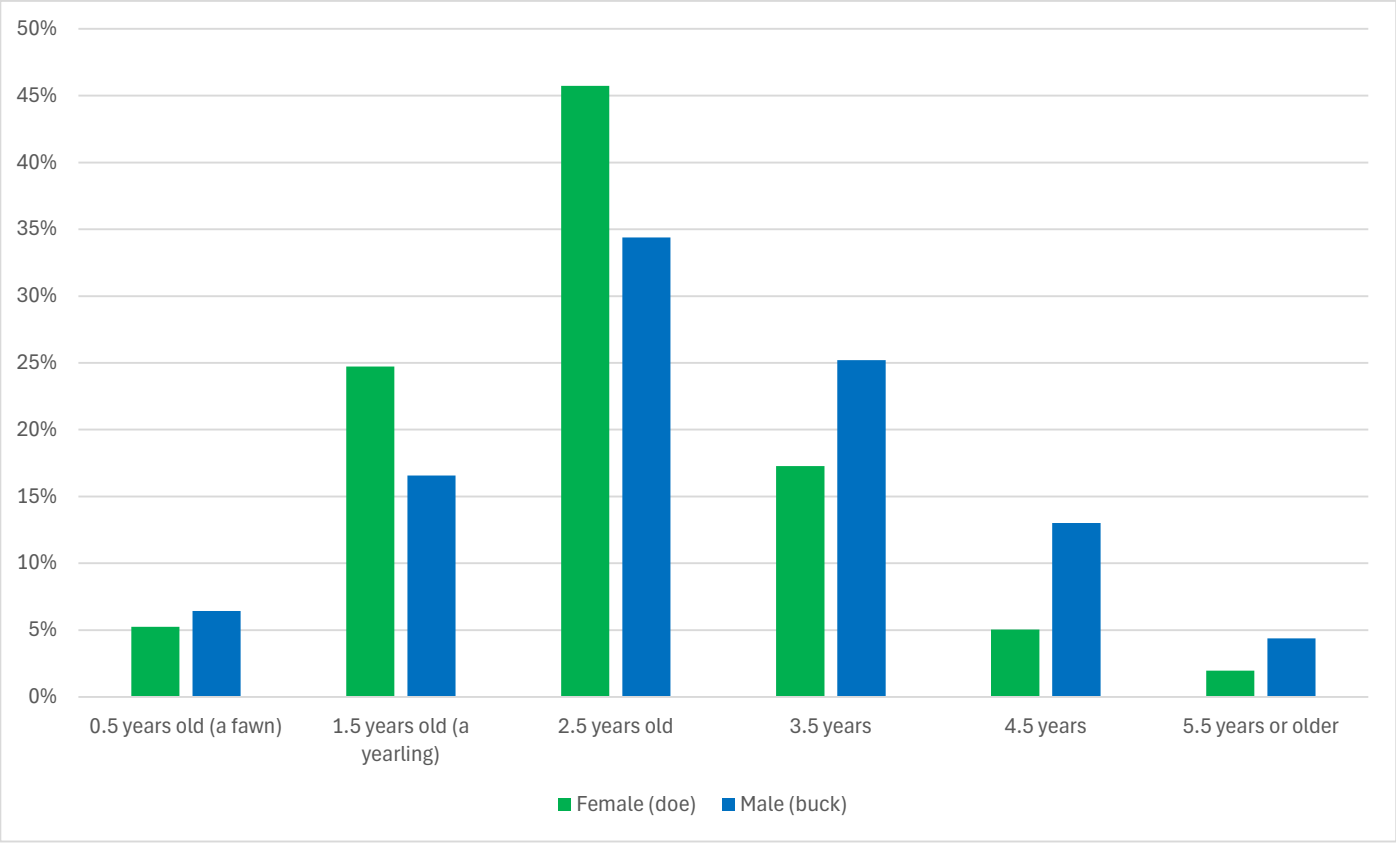
Hours spent hunting does before harvest			
	n	average	95% CI
Private land	1,098	16.6	1.6
Public land	102	14.3	3.6

Does seen while hunting does			
	n	average	95% CI
Private land	1,097	5.7	0.5
Public land	102	3.2	0.6

Hours spent hunting bucks before harvest			
	n	average	95% CI
Private land	1,885	26.4	2.2
Public land	204	24.2	5.0

Bucks seen while hunting bucks			
	n	average	95% CI
Private land	1,881	8.3	0.4
Public land	205	3.7	0.5

Figure 8-3. Age distribution of the statewide deer harvest reported in the 2024-2025 After Hunt Survey.



Chapter 9. DNR Deer Research

Each year the Indiana DNR conducts various research to investigate questions related to deer management. These can be literature reviews to answer specific questions that have arisen, such as for a new policy, field work to estimate deer populations, or statistical analysis of existing data. In this section we report on the internal research that was conducted in 2024 using the 2025 Deer Management Survey.

Analysis of Questions Related to the Inclusions of Breech-loading Muzzleloaders into the Muzzleloader Season

Joe N. Caudell, *Indiana Department of Natural Resources*

Introduction and Methods

In the 2025 Deer Management Survey, DNR asked a series of questions related to the inclusion of breech-loading muzzleloaders into the muzzleloading season. The questions were prompted by a petition to the Natural Resources Commissions to allow this new type of equipment into the hunting season. On Feb. 10, 2024, the survey was sent to 201,047 Division of Fish & Wildlife deer hunters (i.e., individuals who had checked in a deer in 2024 and/or purchased a deer hunting license in 2024), anyone who had filled out a Deer Management Survey previously, and other individuals who had signed up to receive the annual deer management survey at on.IN.gov/deer-survey. A reminder was sent to 179,021 individuals on Feb. 19. A total of 21,061 surveys had at least their county of residence selected.

At the start of the section related to the proposed muzzleloader season change, DNR presented the following information to explain the proposed rule change.

> *The Indiana DNR periodically considers changes to deer hunting and management rules and regulations. We would like to gauge your support or opposition to the potential change described below. Please note that this rule proposal is only a consideration at this time, and no official changes have been made.*
>
> *DNR has recently received a request asking that we allow the use of breech-loading inline muzzleloaders during muzzleloader season. Currently, this type of equipment is allowed during firearms season, but is excluded from muzzleloader season. Breech-loading muzzleloaders still require the bullet to be loaded from the muzzle, but the powder is loaded from the breech in a cartridge containing the powder and the primer.*
>
> *Next, you will see a series of questions related to this proposed rule change.*

Results and Discussion

Over the years, various hunters have expressed both desire and concern about this type of change. Existing muzzleloader hunters can be concerned that the inclusion of more modern equipment types will cause their normally quiet season to be overrun with new hunters. However, from a DNR perspective, the inclusion of new equipment may open the season to more individuals who favor more reliable, easier-to-master equipment. Therefore, DNR asked hunters "***Do you hunt with a muzzleloader?***" DNR received responses from 16,184 hunters with 63% (n=10,133) saying **Yes**, they hunt with a muzzleloader, 32% (n=5,185) saying **No**, they do not hunt with a muzzleloader, and 5% (n=866) saying **that they would consider it if I could use the breech loading muzzleloader**. So, the inclusion of this new type of equipment into the

muzzleloader season would likely cause a small increase in participation.

DNR asked hunters "***In general, I _____ the proposed rule change to allow breech-loading muzzleloaders to be used during the muzzleloader season.***" Of those hunters who responded (n=16,158) most (44%, n=7,089) neither supported nor opposed the inclusion of breech-loading muzzleloaders into muzzleloader season. Nineteen percent (n=3,014) strongly supported, 14% somewhat supported, 10% (n=2,336) somewhat opposed, and 13% (n=3,014) strongly opposed.

DNR asked those hunters from a previous question who said they hunt with a muzzleloader and those who would potentially hunt with a breech-loading muzzleloader if it became legal during the muzzleloading season ***"If it became legal, how likely are you to hunt deer using breech-loading muzzleloaders during muzzleloader season in Indiana?"*** DNR received 10,970 responses to this question. Most hunters said it would be extremely unlikely (35%, n=3,810) that it would not change their behavior. Fifteen percent (n=1,602) said it would be moderately unlikely to change their behavior, 28% (n=3,106) said it would be neither likely nor unlikely to change their behavior, 14% (1,584) said it would be moderately likely to change their behavior, and only 8% (n=868) said it would be extremely likely to change their behavior.

DNR asked hunters "***If it became legal, how unacceptable or acceptable would it be for other hunters to hunt deer using breech-loading muzzleloaders during muzzleloader season?***" Of those who responded (16,043), 45% (n=7,161) said that it would be neither unacceptable nor acceptable to include this new equipment in muzzleloader season. Nineteen percent (n=3,035) said that it would be extremely acceptable, 16% (2,615) said it would be moderately acceptable, 10% (n=1,615) said it would be moderately unacceptable, and 10% (n=1,617) said it would be extremely unacceptable.

Over the years, some hunters have indicated that the inclusion of more modern equipment into the muzzleloader season has detracted from their experience during this season. Because of this, DNR asked those hunters from a previous question who said they hunt with a muzzleloader and those who would potentially hunt with a breech-loading muzzleloader if it became legal during the muzzleloading season about their level of agreement with the statement "***The use of breech-loading muzzleloaders during muzzleloader season would detract from my enjoyment of muzzleloader season.***" Of those muzzleloader hunters who responded (n=10,895), 44% (n=4,868) indicated that they neither agreed nor disagreed with that statement. Twenty-three percent (n=2,574) said they strongly disagreed with the statement, 10% (n=1,112) said they moderately disagreed with the statement, 9% (n=1,013) said they moderately agreed with the statement, and 13% (n=1,388) said they strongly agreed with the statement.

DNR gave hunters the opportunity to provide additional comments related to this potential rule change. DNR received 1,956 comments about this proposed change. Below is a summary of the feedback received regarding the proposed rule change on muzzleloader use, ranked by similarity.

1. **Preserving the Primitive Nature of Muzzleloader Season**: Many respondents said that the muzzleloader season should remain a primitive hunting experience. They believe that allowing breech-loading firearms diminishes the challenge and spirit of traditional muzzleloading. This feedback emphasizes keeping the season for traditional muzzleloaders only.
2. **Concerns about Easing Hunting**: A significant portion of feedback

suggests that using advanced muzzleloaders makes hunting too easy. Many hunters feel that hunting should involve more challenge and that modern technologies have made the sport less demanding, especially in a special season like muzzleloader season.

3. **Safety Considerations**: Some responders pointed out that breech-loading muzzleloaders might improve safety during loading and unloading. They see potential benefits in safely managing the equipment.
4. **Opposition to Breech-loaders**: There were strong sentiments against allowing breech-loading muzzleloaders, with some arguing that they should be classified as rifles rather than muzzleloaders.
5. **Support for Modernizing Equipment**: Some feedback indicated support for the proposed rule change, arguing that it could attract new hunters to the sport and suggest there's no problem with using updated equipment as long as bag limits are maintained.
6. **Impact on Deer Populations**: Respondents expressed concerns that allowing breech-loaders might negatively impact deer populations by making it easier to harvest more deer, thereby reducing the quality of hunting.
7. **Indifference from Certain Hunters**: A few respondents indicated a lack of strong feelings about the issue, saying that it didn't affect them personally because they primarily hunt with other methods.
8. **Potential for Increased Sales**: Some participants believe that permitting breech-loaders could lead to an increase in sales of hunting equipment, which some viewed positively.

Overall, the prevailing attitude (about 45%) of hunters toward the inclusion of breech-loading muzzleloaders can be classified as indifference. In most questions, hunters were indifferent to this new type of muzzleloader being included in the regulations. The next most prevalent attitude (35% on average) was acceptance, with more than half of the remaining respondents expressing some level of acceptance to this new equipment type. Approximately 25% of respondents expressed a range of opposition to this new type of equipment. Finally, comments between concerns and acceptance of this new equipment were relatively balanced. Given this response, the Deer Program does not have any objections to the inclusion of breech-loading muzzleloaders into the muzzleloader season.

Analysis of Questions Related to the Turn in a Poacher (TIP) Line

Joe N. Caudell and Geriann Albers, *Indiana Department of Natural Resources*

Introduction and Methods

In the 2025 Deer Management Survey, DNR asked a series of questions about people's awareness and familiarity with the Turn in a Poacher (TIP) hotline. This was requested by the DNR representatives on the Turn in a Poacher board to provide some baseline information to inform the board's outreach and marketing efforts.

On February 10, 2024, the 2025 Deer Management Survey was sent to 201,047 Division of Fish and Wildlife deer hunters (i.e., individuals who had checked in a deer in 2024 and/or purchased a deer hunting license in 2024), anyone who had filled out a Deer Management Survey previously, and other individuals who had signed up to receive the annual deer management survey at on.IN.gov/deer-survey. A reminder was sent to 179,021 individuals on Feb. 19. A total of 21,061 surveys had at least their county of residence selected. DNR asked both Indiana resident hunters (n=16,979) and non-hunters (n=2,803) several questions related to the Turn in a Poacher (TIP) Line.

Results

DNR asked both hunters and non-hunters "**Have you heard of a hotline in Indiana that you can use to anonymously report poaching and polluting activity and be eligible for a reward for doing so?**"

DNR asked both hunters and non-hunters "**Where did you hear about this hotline (check all that apply)?**," and 9,276 individuals replied they had heard about the hotline from a single source and 3,838 individuals selected they had heard about the hotline from multiple sources. The single most influential site for both hunters (62%, n=5,204) and non-hunters (29%, n=254) was the hunting and fishing regulations guides. For non-hunters, the DNR website (17%) and other sources (27.6%) were the next most influential sources (Table 9-1). DNR received 434 comments from hunters and 163 comments from non-hunters who selected the "Other" category. Comments that should have been selected rather than being included in Other were added to the listed categories. DNR further coded the comments into 27 categories. The most common comment from hunters and non-hunters was that the survey was their first exposure to the TIP Line (Table 9-1).

DNR asked both hunters and non-hunters "**What is your familiarity with the Turn in a Poacher or Polluter program (also called the TIP line)?"** DNR received responses from 17,588 individuals with 2,380 responses from non-hunters and 15,208 responses from hunters. Most non-hunters (67%, n=1,595) responded that they were not at all familiar with the TIP line (Table 9-2). The majority of hunters (73%, n=11,078) had some level of familiarity with the TIP line, while only 27% said they were not familiar at all with the TIP line (Table 9-2).

Table 9-1. Responses of hunters and non-hunters to the question **"Where did you hear about this hotline (check all that apply)?**" The response categories are on the left and the categorized comments are on the right.

Where Did You Hear About TIP (selection)	Hunter	Nonhunter
Conservation Officer	376	34
Hunting and Fishing Regulations	5,204	254
Rack Card / Handout / Brochure	81	11
Social Media	459	59
TV / Newspaper / Radio	88	29
Website	581	154
Word of Mouth	784	106
Other (see to the right)	842	245
Where did you hear about TIP - Other (Write in)	**Hunter**	**Nonhunter**
4-H Shooting Sports	1	
Billboard	2	1
Boat Sport and Travel Show	9	
Bumper Sticker or Decal	5	
College or School	2	1
Conservation Organization	7	
County Fair	1	
DNR Email	23	29
DNR Employee	3	1
DNR Newsletter	3	4
DNR Property	8	
Do Not Recall	45	5
From my Employment - DNR	20	1
From my Employment - LE	6	
From my Employment - License Retailer	1	1
Hat	7	
Hunter Education	75	6
License Plate	1	
Outdoor Indiana Magazine	1	2
Outdoor Retailer	4	1
Podcast	3	
Seen in Multiple Locations	2	
Social Media	3	
State Fair	5	3
This Survey	192	107
TIP Trailer	1	1
Used the TIP Line	4	

Table 9-2. Responses of hunters and non-hunters to the question **"What is your familiarity with the Turn in a Poacher or Polluter program (also called the TIP line)?"**

	Nonhunters		Hunters	
	n	%	n	%
Not at all familiar	1,595	67%	4,130	27%
Somewhat familiar	475	20%	4,814	32%
Very familiar and have used	32	1%	1,111	7%
Very familiar but have not used	278	12%	5,153	34%

Analysis of Boone and Crockett Record Book Data

Joe N. Caudell, *Indiana Department of Natural Resources*

Introduction and Methods

Hunters and deer managers are often curious about where Indiana ranks for large deer when compared with other states. To answer this question, DNR worked with the Boone and Crockett Club's Big Game Record Department to access their records through their Big Game Records Live (BGRL) portal (https://www.boone-crockett.org/big-game-records-live-0) to collect the data to investigate this question. This is a public portal to Boone and Crockett data that can be accessed by the public for a small fee. Boone and Crockett records are awarded for 'typical' white-tailed deer with a score of over 160 and 'non-typical' deer over 185.

The records were accessed from the BGRL on March 25, 2025. Boone and Crockett records are constantly being updated as new records are submitted; therefore, the date when the records were accessed is important to note. There can often be a lag of one or more years as hunters wait to receive their deer back from taxidermists. Records from the 2024 harvest are not included because only a small fraction of the deer harvested and measured at this time have been uploaded into the system. Also, data examined at a later date may not match with this report because there is no cutoff for when deer are harvested and when they have to be measured (as long as it is longer than the 60-day drying period for the rack). Therefore, hunters who inherit, purchase, or find previously unscored deer may submit those records years later, adding to the records for that state.

Results and Discussion

DNR compiled the data for both typical and non-typical white-tailed deer in the United States and compared Indiana's outcomes to those from the other top 19 states in the U.S. and Canada. To adjust for the size difference among these states, DNR examined the records on a per 1,000 square mile basis (Table 9-3). Midwestern states were routinely in the highest rankings, with Indiana being the third highest overall ranking since 2010, behind Ohio (No. 2) and Wisconsin (No. 1) for total records accepted into the Boone and Crockett records. However, when the states were examined balancing for the size of the state, Indiana was in the top ranking overall (since 2010) with the top ranking each year since 2016.

DNR examined how Indiana's average typical score for the deer reported had changed over time and compared those scores to other states. Indiana's average annual score since 1981 was 171.22 ($\pm$ 1.61 95% CI) and has been relatively consistent over the years (Table 9-4; Figure 9-1). Against other states, Indiana ranked in the middle (28th) for the average size of bucks reported since 1981 (Table 9-5). The average score since 2010 has increased, moving Indiana's rank to 21 (Table 9-6). It is also important to note that many of the states that routinely produce many Boone and Crockett bucks are only within a few inches of each other, but Saskatchewan (SK) outpaces most other states and provinces for both the size of buck and the number produced (Tables 9-5 and 9-6).

Shooting a wild trophy deer is a rare occurrence for most hunters and only represents about 0.1% of the bucks harvested. Hunters have expressed interest in Indiana DNR adopting trophy deer management strategies, but there is still a relatively low number who desire this approach (Caudell and Buchanan-Schwanke 2021). Typically, there is no universal preference for regulations that hunters desire (Cornicelli et al. 2011), making large-scale and/or significant

changes difficult. In Indiana, most hunters continually express a desire to be able to shoot the buck they want, rather than being constrained by the DNR to shoot a buck of a particular size. Additionally, because of regular outbreaks of EHD, annual mortality from brain abscess syndrome (BAS), and regular deer-vehicle collisions is likely to impede significant improvements on a statewide basis. Therefore, further increases in the quality of the deer herd and quantity of Boone and Crockett deer will not be caused by widespread changes in deer regulations, but it will likely be caused by localized deer management decisions by private landowners, such as those that are achieved through deer management cooperatives (Mitterling et al. 2021) and management schemes such as quality deer management (Miller and Marchinton 1995).

Deer cooperatives have the greatest likelihood of success because a cooperative effort by a group of landowners can have a much greater effect than a single landowner who owns less land than a buck will use on a yearly basis. Hunters and landowners who desire further increases in buck quality should consider the development of cooperatives in the areas they hunt. Additional information about wildlife management cooperatives can be found at the National Wildlife Cooperative website (https://www.nationalwildlifecoop.com/national-wildlife-cooperative).

Literature Cited

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Cornicelli, L., D. C. Fulton, M. D. Grund, and J. Fieberg. 2011. Hunter perceptions and acceptance of alternative deer management regulations. Wildlife Society Bulletin 35:323:329.

Miller, K. V., and R. L. Marchinton, editors. 1995. Quality Whitetails: The Whys and How of Quality Deer Management. Stackpole Books, Mechanicsburg, PA.

Mitterling, A. M., B. A. Rudolph, and D. B. Kramer. 2021. The influence of private deer management cooperatives on harvest outcomes and hunter satisfaction. Wildlife Society Bulletin 45:456-464.

Figure 9-1. Annual change in Boone and Crockett average score and total number of scores reported from 1981 to 2023.

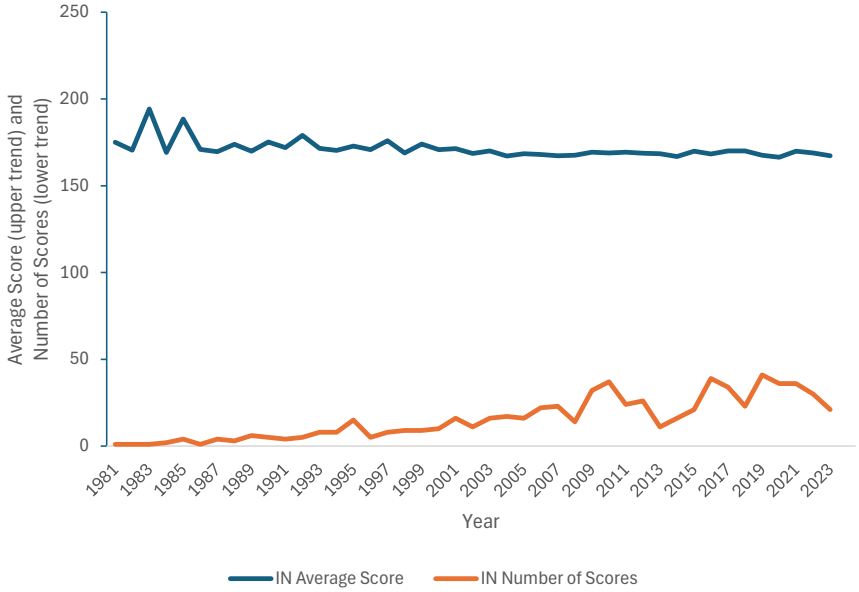

Table 9-3. Total number of records and records per 1,000 square miles of typical white-tailed deer accepted into the Boone and Crockett record book for the top 20 states, organized by overall rank, since 2010. The top state for each year is highlighted in yellow.

State or Province	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Total
	Total Records Accepted to Boone and Crockett Record Book														
Wisconsin	131	66	159	25	46	62	75	60	38	27	54	64	53	36	896
Ohio	62	49	60	40	34	49	73	64	43	50	53	52	51	28	708
Indiana	48	41	38	18	23	31	71	55	39	62	55	50	46	37	614
Kentucky	41	60	52	43	39	50	36	43	36	42	45	39	28	29	583
Iowa	37	33	68	20	31	32	39	32	34	37	47	34	44	35	523
Illinois	39	62	49	12	21	18	36	32	31	39	37	36	41	24	477
Kansas	34	30	28	34	38	38	35	20	32	35	26	24	23	21	418
Minnesota	47	15	59	8	27	41	26	34	15	24	30	39	27	14	406
Missouri	41	33	16	20	21	25	42	49	20	16	26	24	29	18	380
Texas	37	17	22	28	29	38	22	29	26	36	29	29	12	22	376
Saskatchewan	33	12	30	6	10	23	13	22	3	16	20	27	3	7	225
Alberta	32	17	27	4	5	19	15	11	4	9	7	15	17	6	188
Nebraska	13	16	10	5	11	11	13	6	13	7	5	10	1	6	127
Oklahoma	9	9	13	6	9	6	3	8	8	14	3	7	8	5	108
Michigan	5	4	7	5	8	9	14	12	2	9	8	7	5	8	103
Arkansas	8	4	5	7	14	14	12	13	2	1	1	1	2	2	86
Pennsylvania	10	5	4	3	6	2	10	10		5	6	9	2	5	77
South Dakota	8	7	2	2	7	12	12	5	2	3	7	5	3	2	77
Mississippi	7	6	12	5	9	6	10	4	4		2	3	3	5	76
Georgia	5	9	8	2	2	4	4	2	6	4	9	2	3		60
	Records per 1000 Square Miles Accepted to Boone and Crockett Record Book														
Indiana	0.51	0.43	0.40	0.19	0.24	0.33	0.75	0.58	0.41	0.66	0.58	0.53	0.49	0.39	6.51
Ohio	0.53	0.42	0.52	0.34	0.29	0.42	0.63	0.55	0.37	0.43	0.46	0.45	0.44	0.24	6.10
Kentucky	0.39	0.57	0.50	0.41	0.37	0.48	0.34	0.41	0.34	0.40	0.43	0.37	0.27	0.28	5.57
Wisconsin	0.77	0.39	0.94	0.15	0.27	0.37	0.44	0.35	0.22	0.16	0.32	0.38	0.31	0.21	5.28
Iowa	0.25	0.23	0.47	0.14	0.21	0.22	0.27	0.22	0.23	0.25	0.32	0.23	0.30	0.24	3.59
Illinois	0.26	0.41	0.33	0.08	0.14	0.12	0.24	0.21	0.21	0.26	0.25	0.24	0.27	0.16	3.18
Missouri	0.23	0.18	0.09	0.11	0.12	0.14	0.23	0.27	0.11	0.09	0.14	0.13	0.16	0.10	2.10
Kansas	0.16	0.14	0.13	0.16	0.18	0.18	0.16	0.09	0.15	0.16	0.12	0.11	0.11	0.10	1.96
Minnesota	0.21	0.07	0.26	0.04	0.12	0.18	0.12	0.15	0.07	0.11	0.13	0.17	0.12	0.06	1.80
Delaware	0.47		0.16		0.16		0.16		0.16	0.16				0.16	1.40
Maryland	0.09	0.06	0.25	0.09	0.06		0.12	0.06	0.06	0.16	0.16	0.06	0.09	0.06	1.34
Saskatchewan	0.13	0.05	0.12	0.02	0.04	0.09	0.05	0.09	0.01	0.06	0.08	0.11	0.01	0.03	0.90
Alberta	0.13	0.07	0.11	0.02	0.02	0.07	0.06	0.04	0.02	0.04	0.03	0.06	0.07	0.02	0.74
West Virginia		0.02	0.05	0.05	0.03	0.10	0.08	0.11	0.05	0.02	0.06	0.05	0.05	0.03	0.69
Pennsylvania	0.08	0.04	0.03	0.03	0.05	0.02	0.08	0.08		0.04	0.05	0.08	0.02	0.04	0.65
Nebraska	0.06	0.08	0.05	0.02	0.05	0.05	0.06	0.03	0.06	0.03	0.02	0.05	0.00	0.03	0.63
Arkansas	0.06	0.03	0.04	0.05	0.10	0.10	0.09	0.09	0.01	0.01	0.01	0.01	0.01	0.01	0.62
Mississippi	0.06	0.05	0.10	0.04	0.07	0.05	0.08	0.03	0.03		0.02	0.02	0.02	0.04	0.61
Oklahoma	0.05	0.05	0.07	0.03	0.05	0.03	0.02	0.04	0.04	0.08	0.02	0.04	0.04	0.03	0.60

Table 9-4. Average score and number of Boone and Crockett scores in Indiana reported since 1981.

Year	Average Score	Number of Scores
1981	175.00	1
1982	170.50	1
1983	194.25	1
1984	169.19	2
1985	188.41	4
1986	171.00	1
1987	169.69	4
1988	173.96	3
1989	169.98	6
1990	175.23	5
1991	172.03	4
1992	179.10	5
1993	171.58	8
1994	170.39	8
1995	172.93	15
1996	170.85	5
1997	175.88	8
1998	168.94	9
1999	174.10	9
2000	170.86	10
2001	171.38	16
2002	168.65	11
2003	170.02	16
2004	167.16	17
2005	168.46	16
2006	168.06	22
2007	167.22	23
2008	167.57	14
2009	169.27	32
2010	168.89	37
2011	169.34	24
2012	168.73	26
2013	168.44	11
2014	166.89	16
2015	169.96	21
2016	168.29	39
2017	170.04	34
2018	170.08	23
2019	167.54	41
2020	166.43	36
2021	169.97	36
2022	168.85	30
2023	167.30	21

Table 9-5. Average score and number of Boone and Crockett scores reported across the United States, Canada, and Mexico since 1981. States are in order by the average score.

State or Province	Number of Reports	Average	95% CI
NS	6	176.75	7.54
NL	15	175.72	2.78
NM	3	173.54	6.17
MB	81	173.37	2.04
SK	566	173.17	0.63
IL	874	172.13	0.51
AB	370	172.04	0.76
KS	513	171.90	0.69
IA	803	171.89	0.52
WA	15	171.78	5.64
TM	3	171.58	2.68
CO	62	171.50	1.87
NB	22	171.36	2.88
TX	464	171.05	0.61
ID	43	170.83	2.15
WY	16	170.30	3.51
BS	1	170.13	
MN	606	170.08	0.58
ND	76	169.91	1.61
SD	110	169.78	1.23
MA	20	169.69	3.90
OH	767	169.66	0.54
MT	74	169.60	1.64
MI	184	169.60	1.09
MO	555	169.59	0.60
BC	49	169.54	1.96
MD	75	169.45	1.62
IN	671	169.36	0.57
AR	133	169.36	1.18
NE	204	169.33	1.01
ON	70	169.24	1.74
NC	35	168.81	1.85
ME	109	168.71	1.31
OK	115	168.59	1.28
WI	1335	168.52	0.36
KY	803	168.34	0.47
LA	44	168.30	1.97
SC	10	168.25	3.34
MS	112	168.16	1.23
NY	88	168.15	1.38
DE	20	168.01	2.84
RI	4	167.84	5.92
TN	47	167.82	1.68
VA	104	167.75	1.23
NJ	8	167.67	7.33
VT	4	167.66	4.07
CT	17	167.49	3.40
GA	159	167.27	0.94
AL	13	167.27	3.89
NH	49	167.24	1.83
WV	45	167.14	1.67
PA	84	166.52	1.14
OR	5	166.35	6.12
QC	39	166.06	1.81

Table 9-6. Average score and number of Boone and Crockett scores reported across the United States, Canada, and Mexico since 2010 states are in order by the average score.

State or Province	Number of Reports	Average	95% CI
NM	2	176.63	0.05
RI	1	176.50	
SK	152	172.59	1.10
NL	6	172.33	0.47
NB	2	171.38	0.05
IL	236	171.03	1.16
TX	230	170.98	1.03
CO	18	170.80	1.15
IA	265	170.76	1.19
ON	19	170.26	1.45
KS	187	170.12	1.08
AB	121	169.98	1.06
SD	48	169.90	1.06
MA	6	169.69	1.20
DE	5	169.60	1.08
OK	41	169.24	1.14
NY	39	168.83	1.10
NE	77	168.81	1.10
MN	265	168.73	1.07
AL	3	168.67	0.93
IN	395	168.63	1.09
CT	6	168.46	0.86
MS	53	168.38	1.07
MO	184	168.36	1.05
OH	413	168.28	1.07
BC	18	168.24	0.84

State or Province	Number of Reports	Average	95% CI
NC	12	168.02	0.58
WY	3	167.96	0.70
AR	60	167.87	1.12
ND	38	167.82	0.83
WI	640	167.67	0.99
VA	37	167.64	0.83
KY	389	167.49	0.99
WV	31	167.48	0.94
TN	20	167.43	0.81
WA	2	167.38	1.61
MI	78	167.37	0.92
VT	2	167.25	0.98
MD	27	167.21	0.90
ME	28	167.02	0.89
GA	47	167.00	0.91
LA	14	166.96	0.87
NS	1	166.75	
MB	16	166.74	0.92
PA	56	166.43	0.86
MT	12	165.86	0.92
QC	22	165.69	0.88
ID	6	165.63	0.77
NH	13	165.53	0.70
SC	2	164.31	0.73
NJ	2	160.13	0.03

Years of Experience and Equipment Used, Deer Desired, and Deer Harvested.

Joe N. Caudell, *Indiana Department of Natural Resources*

Introduction and Methods

In the 2025 Deer Management Survey, DNR asked a series of questions to explore how equipment use, deer harvested, and number of deer desired changes over time. The analysis was prompted during the development of deer hunter training materials by DNR's deer hunting Recruitment, Retention, and Reactivation (R3) team.

On Feb. 10, 2024, the survey was sent to 201,047 Division of Fish & Wildlife deer hunters (i.e., individuals who had checked in a deer in 2024 and/or purchased a deer hunting license in 2024), anyone who had filled out a Deer Management Survey previously, and other individuals who had signed up to receive the annual deer management survey at on.IN.gov/deer-survey. A reminder was sent to 179,021 individuals on Feb. 19. A total of 21,061 surveys had at least the county of residence selected, and 15,161 hunters provided an answer to the number of years hunted.

Results

DNR examined the preferences for the number of deer harvested from hunters who provided an answer to the number of years they have been hunting (n=15,161). Most hunters in all experience categories desired two deer (Figure 9-2). DNR found that as hunters obtain more experience, they desired more deer until they had more than 20 years of experience. At that point, the number of deer desired decreased (Figure 9-2). Less than 9% of all hunters in all age categories desired four or more deer.

DNR asked hunters how many deer they wanted to harvest and how many deer they harvested (Table 9-7). If a hunter was able to harvest the number of deer desired, or more deer than initially desired, DNR labeled that as being successful. If hunters did not achieve their goals and harvested fewer deer than they desired, DNR labeled those responses as unsuccessful. DNR examined these responses by numbers of years hunting. DNR found that hunters with more than 20 years of experience were the most successful (24%) at achieving their harvest goals (Table 9-8).

DNR asked hunters what equipment they used during the most recent deer hunting season and examined that by years of experience (Table 9-9). Most hunters (n = 10,620) reported using multiple equipment types, while 5,025 reported they only used a single type of equipment (Table 9-10). As hunters gained more experience, they typically added different equipment types (Table 9-11).

Figure 9-2. Number of deer desired plotted against the number of years of experience deer hunting during the 2024-25 deer hunting seasons.

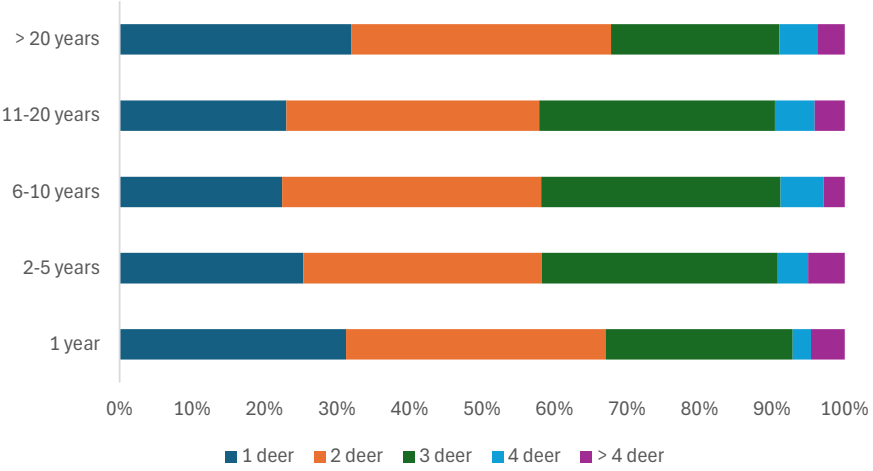

Table 9-7. Percentage of hunters by experience class and the number of deer desired and the number of deer harvested during the 2024-25 deer hunting seasons (n = number of responses in each age category).

Years of Expereince	n	0	1	2	3	4	More than 4
Number of Deer Desired							
1 year	236		31%	36%	25%	3%	5%
2-5 years	2,330		23%	35%	33%	5%	4%
6-10 years	971		25%	33%	32%	4%	5%
11-20 years	1,093		22%	36%	33%	6%	3%
More than 20 years	10,544		32%	36%	23%	5%	4%
Number of Deer Harvested							
1 year	237	51%	40%	6%	3%	0%	0%
2-5 years	2,333	44%	38%	12%	4%	1%	1%
6-10 years	972	42%	36%	15%	5%	1%	1%
11-20 years	1,094	36%	39%	16%	7%	2%	1%
More than 20 years	10,568	38%	39%	15%	6%	1%	1%

Table 9-8. Percentage of hunters by experience class who were successful or unsuccessful in achieving their stated harvest goals during the 2024-25 deer hunting seasons (n = number of responses in each age category).

Years of Expereince	n	Percent successful	Percent unsuccessful
1 year	236	15%	85%
2-5 years	971	14%	86%
6-10 years	1,093	17%	83%
11-20 years	2,330	21%	79%
More than 20 years	10,544	24%	76%

Table 9-9. Percentage of hunters by experience class and the type of equipment used during the 2024-25 deer hunting seasons (n = number of responses in each age category). This does not include the individuals who used multiple equipment types

Equipment Type	1 year	2-5 years	6-10 years	11-20 years	More than 20 years
High-powered rifle	39.4%	40.6%	31.2%	29.5%	37.1%
Compound bow	18.1%	18.6%	25.9%	30.9%	18.1%
Crossbow	16.3%	18.6%	18.3%	15.2%	16.6%
Shotgun	17.5%	13.0%	14.0%	10.3%	12.9%
Pistol-caliber rifle (or other low-power rifle)	6.3%	5.0%	6.3%	7.1%	7.2%
Modern in-line muzzleloader	0.6%	1.7%	2.4%	4.3%	4.5%
Traditional bow	0.0%	0.5%	0.8%	1.4%	1.3%
Traditional muzzleloader	1.3%	1.4%	0.8%	1.0%	1.1%
Handgun	0.0%	0.0%	0.0%	0.0%	0.5%
Modern recurve bow	0.0%	0.2%	0.0%	0.3%	0.3%
Breech-loading muzzleloader (e.g., FireStick)	0.6%	0.0%	0.0%	0.0%	0.2%
Arrow gun (e.g., air bow)	0.0%	0.5%	0.0%	0.0%	0.1%
Air rifle	0.0%	0.0%	0.3%	0.0%	0.0%
Number of responses	160	702	424	378	3,188

Table 9-10. Amount of equipment (single or multiple) used by hunters by experience class.

Years of Experince	Multiple	Single
1 year (This was my first year deer hunting.)	32%	68%
2-5 years	56%	44%
6-10 years	65%	35%
11-20 years	70%	30%
More than 20 years	70%	30%

Using Camera Traps to Estimate Post-Harvest White-tailed Deer Densities on Indiana Public Properties

Carsten White, *Indiana Department of Natural Resources*

Indiana DNR maintains much of the public land accessed by hunters throughout the state and has a responsibility to ensure that white-tailed deer populations are healthy and abundant. A portion of this responsibility relies on surveying and estimating population densities of deer among the state's properties to ensure proper game management practices are employed. Common methods for estimating deer densities in an area rely on using distance sampling methodologies in which deer distances from randomized survey points or survey transects are recorded and contribute to building a model of detectability to calculate proper population density estimates (Buckland et al. 2004). Most commonly this is used by game managers in roadside spotlight surveys. However, the use of game cameras (hereafter referred to as camera traps) in place of spotlights has become more common and more effective in calculating confident density estimates with reduced biases (Preston et al. 2021). Previously, in conjunction with partners from Purdue University, DNR began using camera traps on private properties in specific areas of the state in 2022. From this data, estimated deer density maps have been developed for three Deer Management Units (Caudell 2024). However, no estimates currently exist pertaining to Indiana DNR's Fish & Wildlife areas that would allow managers to detect trends in local populations with reasonably high confidence.

Beginning in August 2024, the DNR Deer Program began distributing camera traps to many of the Division of Fish, Wildlife & Nature Preserves properties that are actively hunted. About 25 cameras were deployed in randomized areas throughout each of the properties to begin recording photos. DNR set up camera sites that followed what was outlined by Howe et al. (2017) and Delisle et al. (2023). All cameras were set to continuously record photos with as minimal of a capture delay as each camera model would allow. Either Deer Program staff or property staff would check cameras for SD card and battery replacement every six to eight weeks. Camera images were scored, and distances to deer were recorded in TimeLapse software (Version 2.3.1, Greenberg 2024) by Deer Program staff. Distance sampling analysis was conducted using the function Distance in program R (version 4.4.1, R Core Team 2024).

For calculating density estimates, DNR used camera trap images taken between the dates Feb. 24 and March 10 to ensure estimates were postharvest, with all hunting activity ending in late January (Table 9-12). For each postharvest estimate of a state-owned property, 95% confidence intervals and a corresponding coefficient of variation were provided. The intervals for each postharvest density estimate likely indicate the varying range of deer density across a particular property. In addition to the postharvest estimate, an approximate preharvest estimate was calculated by adding the total harvest density and estimated postharvest density. From this, DNR calculated the percentage of the property's deer population that was harvested during the 2024 deer season.

Due to time constraints, malfunctioning cameras, and other camera-site issues, not all properties were sufficiently surveyed by camera traps after the 2024 deer hunting season. This survey will continue in the future, with priority falling to properties who were not sufficiently surveyed or did not have cameras the previous year. Additionally, unmanned aerial vehicles (drones) are actively being used by staff in the Deer Program to survey all properties to compare calculated camera trap estimates to determine which method or combination of methods will be used in the long term.

Table 9-11. Estimated white-tailed deer densities calculated by camera traps at public hunting properties managed by the DNR Division of Fish, Wildlife & Nature Preserves. Postharvest estimates for 2024 were calculated using camera trap conventional distance sampling with 95% confidence intervals and coefficient of variation reported for each estimate. The approximate 2024 preharvest density for each property was calculated by adding the 2024 estimated postharvest density and 2024 deer harvest density. Properties impacted by EHD in 2024 are denoted by an asterisk. Using these calculated numbers, the approximate percentage of the population that was harvested in 2024 is reported.

Lands Managed by the Division of Fish, Wildlife & Nature Preserves with Active Cameras	Approximate 2024 Pre-Harvest Deer Density (per mi2)	2024 Total Deer Harvested (per mi2)	2024 Post-Harvest Estimated Deer Density (per mi2) [95% Confidence Interval]	Coefficient of Variation (CV)	Percentage of 2024 Property Population Harvested
Glendale	17.9	7.6	10.3 [5.9 – 18.0]	0.269	42.4%
Kingsbury	46.6	10.9	35.7 [25.0 - 51.1]	0.179	23.4%
LaSalle	33.5	12.6	20.9 [11.9 - 36.8]	0.284	37.6%
Tri-County	32.1 *	8.4	23.7 [13.6 – 41.3]	0.274	26.2%

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Chapter 10. External Deer Research

Studies described in the External Deer Research chapter are projects being conducted by university partners to better understand deer and inform management decisions in Indiana.

Mitigating Spread of Chronic Wasting Disease Through An Ecological Trap

Cost: $383,860 federal dollars; $0 state dollars
Grant Period: Oct. 1, 2020, to Dec. 31, 2024

Project Personnel

- Dr. Patrick Zollner – Principal Investigator, Purdue University
- Dr. Aniruddha Belsare – Research Scientist (Academic Research), Emory University
- Jonathan Brooks – Ph.D. Student, Graduate Research Assistant, Purdue University
- Dr. Zhao Ma – Professor of Natural Resource Social Science, Purdue University
- Lan Zhao – Research Scientist, Purdue University
- I Luk Kim – Ph.D. Candidate, Graduate Research Assistant, Purdue University
- Dr. Joe N. Caudell – DNR Project Liaison, Indiana DNR Division of Fish & Wildlife

Project Overview

Disease outbreaks are an increasingly common cause of severe declines in wildlife populations. One disease with the potential to cause declines in large ungulates such as white-tailed deer is chronic wasting disease (CWD). CWD has been detected in free-ranging cervids in 25 states, including Illinois, Michigan, and Ohio; however, as of the 2021 deer hunting season, CWD has not been detected in Indiana. The nearest documented occurrences of CWD to Indiana come from four infected deer near Kankakee, Illinois. These occurrences were approximately 30 miles from the Indiana border. Given the history of CWD spread and its proximity to Indiana, there is a clear need to consider strategies that may mitigate the risk of CWD infecting Indiana's white-tailed deer populations.

Forested corridors along the Kankakee River provide one of the most likely routes by which CWD-infected deer may enter Indiana. This narrow strip of permanent forest cover amid a landscape dominated by agriculture connects Indiana deer populations to the portion of Illinois where CWD has been detected. Given the significance of this forested cover for deer movement, it may be possible to reduce the likelihood of CWD spreading to Indiana by establishing an artificial ecological trap (AET) in this corridor. An AET is an area that white-tailed deer perceive as favorable but will actually decrease survival through greater harvest mortality. This increased mortality could be accomplished by establishing a deer management zone with increased hunting pressure or implementing a sharpshooter culling program within a focal area.

Measuring the effect of an AET as a preventive measure against CWD spread along the Kankakee River through field experiments would be challenging. Quantitative approaches like mathematical models or computer simulations

provide an effective alternative to investigate such questions. One approach that is particularly well suited to modeling disease in mammal populations is agent-based modeling. An agent-based model (ABM) of CWD spread in white-tailed deer would virtually represent deer movement and behaviors across a digital landscape. The virtual deer are given characteristics such as age, sex, and disease infection status and perform actions in the virtual landscape such as moving, giving birth, dying, and transferring infection. By tracking the location and number of infected individuals over time, we can estimate population-level metrics such as disease prevalence and rate of contact. ABMs make it easier to simulate rare events and individual differences in behaviors like dispersal because they track each individual deer within a population. Similarly, ABMs make no assumptions about rates of contact because those emerge from model inputs specifying the behavior of individuals.

ABMs are useful tools for wildlife managers to compare the relative effectiveness of different AET scenarios; however, implementing an AET in the real world requires stakeholder support. For example, deer hunters must be willing to harvest more deer or allow sharpshooters to cull deer to implement an AET. Furthermore, landowners must be willing to allow hunters or sharpshooters to harvest deer on their land. Although stakeholder cooperation is critical for effective CWD management, stakeholders have resisted these policies in some states. This resistance stems from several factors, including conflict with traditions, a lack of certainty about disease spread, and mistrust. To successfully implement an AET along the Kankakee River, wildlife management agencies would benefit from addressing these barriers to stakeholder acceptance.

One way to reduce stakeholder barriers to acceptance is by providing information about how implementation of an AET will affect deer populations; however, information does not always lead to action. The Theory of Planned Behavior provides a framework that can be used to predict whether an individual will engage in a behavior. This theory states that the best predictor of behavior is the individual's plans, and an individual's planned behaviors result from attitudes toward the behavior, perceived ability to successfully engage in the behavior, and norms of important social groups regarding the behavior. The Theory of Planned Behavior has been used successfully to explain willingness to engage in waste recycling and pro-climate behaviorssuch as recycling, is an emerging focus in public health. Purpose: This study was designed to examine the determinants of recycling intention on a college campus. Methods: Undergraduate students (N=189. By considering the behavior that information is intended to promote or discourage in the context of the Theory of Planned Behavior, management agencies can improve the likelihood that information on CWD will lead to support for disease control policies.

The objectives of this project are to (1) simulate the spread of CWD along the Kankakee River under different CWD management scenarios using an ABM and (2) develop a web-based tool that the public can use to compare simulations across different scenarios and use the Theory of Planned Behavior to investigate how use of this tool affects stakeholders' support of various scenarios for mitigating the spread of CWD into Indiana.

We will implement the OvCWD model framework in northwest Indiana and northeast Illinois to simulate CWD spread in a white-tailed deer population. The OvCWD framework represents the landscape as a grid with cells that correspond to a 1.0 square mile area. Each grid cell represents the percentage of forested land within that area. We determined the percentage forest cover of each cell using the National Landcover Database data. The model begins by

placing virtual deer on the landscape based on the percentage of forest cover. The number of deer initially placed within each cell is a function of estimates of deer density in the scientific literature and from Indiana DNR data (Delisle, personal communication; Boggess and Vaught, 2020; Nixon et al., 2021). Each virtual deer is assigned characteristics including sex, age, herd membership, and infection status. The model represents the passage of time by simulating each deer's location and status every month for 10 to 25 years. During each run, virtual deer perform actions such as giving birth, dying, dispersing to another grid cell, or transferring infection. This simulates real-world processes such as population dynamics and CWD spread. By modifying parameters like the probability of dying in the model, we can emulate different approaches to addressing CWD. The effectiveness of each CWD management scenario can then be compared by summarizing the deer population size and CWD prevalence at the end of a time period. Scenarios we test will include countywide increased hunting, subcounty increased hunting, and targeted sharpshooter culling.

Knowledge gained from the comparisons of scenarios with the ABM will have a larger impact if it is communicated to stakeholders in an understandable way. One way to do this is using a web tool that allows stakeholders to select control scenarios and view a summary of outcomes from those choices. This stakeholder version of the ABM allows anyone to construct scenarios by manipulating the timing, duration, and location of the AET to reduce the deer population and see the predicted impacts upon CWD transmission. In addition to building a tool for displaying ABM results in a way that increases public acceptance of management decisions, we will also test how the visual elements included in the user interface affect stakeholder willingness to engage in action to prevent CWD spread. To do this, we will create a version of the tool that displays an illustration of healthy deer or CWD-infected deer, depending on the prevalence of CWD in the selected scenario. Images of sick deer have been shown to evoke strong emotions regarding CWD (Stinchcomb et al., 2022) and may increase stakeholder intention to prevent CWD spread. Before using the tool, users will conduct a survey assessing their willingness to take action to prevent CWD spread. The survey will be designed in a Theory of Planned Behavior context (Ajzen, 1991). In this context, willingness to act is a function of individual attitudes, the attitudes of socially relevant peers, and perceived ability to perform the action. Users will take the same survey again after using the tool, a process that will provide data to evaluate how inclusion of illustrations changes willingness to engage in actions to reduce CWD spread.

Overall Results of the Project

States where CWD is already present have responded by liberalizing deer harvest limits, restricting movement of deer carcasses, restricting the use of baits by hunters, providing dumpsters for hunters to dispose of deer carcasses, and culling deer in CWD infected areas. However, these strategies provide limited disease control and may not be feasible in Indiana. Preventing CWD establishment in a white-tailed deer population after an introduction event in northwest Indiana and northeast Illinois within 15 years of an outbreak beginning requires increasing hunter harvest more than 200% above current harvest levels across multiple counties (Chapter 1 – Brooks 2024). Disease models suggest that environmental transmission of CWD can lead to a more severe outbreak, but carcass movement restrictions, baiting and feeding bans, and carcass disposal programs designed to reduce CWD spread have not been evaluated. When assuming realistic surveillance (4%) and culling (20%) effort in that same

landscape, the chance of a culling program eliminating CWD from the population is between 0% and 39% depending on assumptions about disease introduction (Chapter 1 – Brooks 2024). Showing deer hunters disease model results in a web app produced no change in intention to harvest an additional doe (Chapter 2 – Brooks 2024). Furthermore, cost-effectiveness analysis shows that the optimal combination of surveillance and culling effort was testing 40% of harvested deer and culling 30% of deer within each culling zone (Chapter 3 – Brooks 2024). This level of surveillance and culling is beyond what other Midwest states are currently achieving with their programs. For these reasons, using the same CWD management strategies as other states in Indiana will be costly and provide a small amount of disease control.

Resulting Publications

Brooks, J. 2024. Epidemiologic, Social, and Economic Dimensions of Chronic Wasting Disease Management in Indiana. Dissertation. Purdue University, West Lafayette, IN. https://hammer.purdue.edu/articles/thesis/Epidemiologic_Social_and_Economic_Dimensions_of_Chronic_Wasting_Disease_Management_in_Indiana/28016450?file=51131591

Other publications are in the process of being prepared and submitted to peer reviewed journals.

White-Tailed Deer and Furbearer Economics

Cost: $725,606 federal dollars; $0 state dollars
Grant Period: Jan. 1, 2021, to Dec. 31, 2025

Project Personnel

- Dr. Carson Reeling – Project Co-Lead Investigator, Purdue University
- Dr. Mo Zhou – Project Co-Lead Investigator, Purdue University
- Dr. John Lee – Project Co-Lead Investigator, Purdue University
- Dr. Zhao Ma – Co-Principal Investigator, Purdue University
- Dr. Richard Melstrom – Project Co-Lead Investigator, Loyola University – Chicago
- Dr. Robert Swihart – Project Co-Lead Investigator, Purdue University
- Dr. Joe N. Caudell – DNR Project Liaison, Indiana DNR Division of Fish & Wildlife
- Geriann Albers – DNR Project Liaison, Indiana DNR Division of Fish & Wildlife

Indiana's deer and furbearers generate economic value from both consumptive and nonconsumptive uses. Consumptive uses of deer and furbearers primarily include hunting and trapping. The direct economic value hunters receive from hunting takes the form of surplus, equal to the maximum amount a hunter would be willing to give up to obtain a hunting opportunity. Indirect values take the form of changes in regional incomes spurred by hunting-related spending. Hunters may buy equipment, incur travel costs to reach a hunting site, and may pay processing fees upon completing the hunt. These expenditures increase incomes of related business owners. Nonconsumptive uses of deer and furbearers include wildlife watching and the "existence" values individuals receive from knowing their state contains a healthy deer and furbearer population. Of course, deer and furbearers can also generate economic damage through

vehicle collisions and damage to crops and other property. White-tailed deer are involved in more than 14,000 deer-vehicle collisions per year in Indiana alone. Additionally, deer and furbearers can serve as vectors for infectious disease.

Efficient deer and furbearer management in Indiana requires weighing the economic benefits from consumptive and nonconsumptive uses against the associated economic damage and management activity costs, yet these benefits and costs for Indiana are not well known. The overarching goal of our research involves quantifying the value of economically important white-tailed deer and furbearer species (beavers, coyotes, gray and red foxes, long-tailed weasels, minks, muskrats, opossum, raccoons, river otters, and striped skunks). Our objectives are to:

1. Estimate the benefits of consumptive uses of white-tailed deer.
2. Estimate the benefits of consumptive uses of furbearers.
3. Estimate the nonconsumptive benefits and costs of white-tailed deer and furbearers.
4. Assess the distributional effects of outdoor activities and deer-and-furbearer management.
5. Derive an integrated dynamic model of hunter and nonhunter behavior and deer and furbearer population dynamics to simulate the effects of various management decisions on the economic value of deer and furbearers.

The consumptive value of white-tailed deer and furbearers (objectives 1 and 2) is derived primarily from hunting and trapping. The surplus hunters and trappers receive from harvesting these species depends on the number of hunting and trapping trips taken, that is, on the demand for trips. We will estimate a model of deer hunters' demand for trips using existing Deer Management Survey data collected by the Indiana DNR. This survey collects information on hunters' site choices and trip frequency, among other details. We can use this information to estimate the cost of hunting trips. This information, along with data on trip frequency, will allow us to estimate the demand for deer hunting trips among deer hunters and, hence, the surplus from consumptive uses of deer.

No such survey exists for furbearer harvesters. We will develop and conduct a survey of licensed Indiana hunters and trappers to collect this information. This survey will collect information on (i) participation in furbearer harvesting, trip frequency, harvest locations, methods and harvest quantity, (ii) spending on hunting for different game species and hunting events (e.g., predator hunting tournaments), and (iii) hunter and trapper demographics, including income, residential location, and age. We can use the harvest and trip-demand models to estimate economic values from furbearer hunting.

We will estimate nonconsumptive values for deer and furbearers (Objective 3) with data collected from a separate household survey. We will conduct the survey in two stages. The first stage will collect data about nonconsumptive activities related to deer and furbearers, including viewing, photography, and the value of deer and furbearers' ecological role from Indiana households. The survey instrument used in this stage will include questions to assess individuals' knowledge of and experience with these species and their related ecosystem services, a discrete choice experiment to measure their preferences for different levels of deer and furbearers on the landscape, and demographics. We will use the data from the first stage to measure the value of deer and furbearers' ecological role. The first part of the survey will also serve to screen households that have experienced deer and furbearer damage. The second stage of the

survey will follow up with these households to measure the quantity and value of damages and any spending on repairs and mitigation associated with deer- and furbearer-related damages.

Using the data collected from objectives 1 and 2, we will assess the total economic contributions made by outdoor activities related to hunting and trapping in Indiana (Objective 4), with a static input-output (I-O) model that tracks the flow of goods and services among interconnected sectors within an economic system at one point in time. Then we will calculate two types of multipliers typically used in I-O analysis to measure the total or partial effects relative to the direct effect. The type-I multiplier is defined as the sum of direct and indirect effects divided by the direct effects, indicating industrial integration or linkage relative to the economic system of interest. The type-II multiplier is calculated as the total effects divided by the direct effect, thus capturing consumption patterns of households and their impacts on the economic system. Next, we will analyze how changes in recreational behavior and government regulations will affect the participants' expenditures in different sectors as well as in the economywide impacts.

Finally, we will combine the information derived from outputs from objectives 1–4 into an integrated bioeconomic model that can simulate the effects of management decisions on the economic value of deer and furbearer populations. We can calibrate these models given data on species populations, growth rates, net migration, and harvest. Data on deer populations for various deer management units in Indiana are available through an ongoing DNR-funded project overseen by our co-investigators. We will work with contacts at DNR to obtain data for calibrating models of furbearer population dynamics.

Objective 1: Estimate the benefits of consumptive uses of white-tailed deer.

We developed a set of recreation demand models to estimate consumptive uses for deer for Objective 1. Each demand model relates an individual's decision about where to hunt with location characteristics using utility theory, as described in the proposal's conceptual model. We estimated these models using several sources of hunting, land cover, and land use data, with different sources of hunting data producing different models. We worked with Emily McCallen, biometrician at Indiana DNR, to collect hunting data from the 2019 Deer Management Survey, 2019 harvest check-in records, and customer characteristics. We based one demand model on survey responses about the county in which a respondent spent the most time hunting in the past season. We estimated two versions of this demand model with and without the participation option, by including or excluding respondents who reported not going on a hunt. We based another model on the locations of harvested deer in the check-in data. We found the three model versions often yield qualitatively similar predictions and estimates of hunting value. For example, all the models estimate that Indiana hunters value keeping Allen County open for hunting at about $0.31/trip, or $3.1 million if there are 10 million hunting trips in Indiana in a year. Two important exceptions include the effects of population density and developed land on location choice and consumptive values; the check-in model attributes a larger effect of developed land on these outcomes while the survey data-based models attribute a larger effect of population density. We are currently writing a manuscript describing and contrasting these models. The next task is to integrate a measure of deer population into the models.

Objective 2: Estimate the benefits of consumptive uses of furbearers.

In year 1 of the project (10/20–10/21), we developed and implemented the furbearer harvester survey for Objective 2. We sent the survey to a random sample of 2,000 licensed furbearer hunters and trappers and received 421 completed surveys. The main goal of this survey was to elicit harvesters' willingness to pay (WTP) for bobcat harvest licenses. Bobcat hunting and trapping are currently not permitted in Indiana but are being considered by the Indiana DNR. We found a mean willingness to pay between $10.40 and $26.40 depending on the bag limit and harvest quota. The total statewide economic outputs of hunting and trapping activities were estimated to be $238.7 million and $6.7 million, respectively.

Objective 3: Estimate the nonconsumptive benefits and costs of white-tailed deer and furbearers & Objective 5 Derive an integrated dynamic model of hunter and nonhunter behavior and deer and furbearer population dynamics to simulate the effects of various management decisions on the economic value of deer and furbearers.

In year 2 of the project (10/21–10/22), we focused on three distinct activities. First, we implemented the household surveys to estimate nonconsumptive values for deer and furbearers from Objective 3. We divided our work into two separate surveys. The first was meant to elicit Hoosiers' WTP for seeing different wildlife species in recreational settings at Indiana State Parks and Recreation Areas. We sent a two-wave mail survey to 7,500 Indiana residents in summer 2022 containing a choice experiment and questions on wildlife perceptions. We processed the data in late summer. Statistical estimation of WTP is complicated by the fact that many respondents that we randomly selected do not visit state parks or recreation areas. These respondents are likely to have systematically different preferences for wildlife than those who visit, and we have had to write custom statistical routines to estimate WTP in this context. We find that, depending on the species and recreational activity in which people are engaged in when viewing an animal, WTP ranges from $0 to $60 per sighting. We use our WTP estimates to calculate the natural capital value of wildlife stocks at one of Indiana's state parks to be nearly $60 million. We are currently finalizing a manuscript with these results for submission to a peer-reviewed journal. The second survey is meant to elicit Hoosiers' WTP for seeing or avoiding different wildlife species around their home. We designed the survey in fall 2022 and mailed it in spring 2023. The data is coded, and we are analyzing the results now. In summer 2024, we received an extension on this project aiming to track Indiana residents' behavior with respect to feeding or repelling wildlife around their homes. Expenditures on feeding can serve as a lower-bound estimate of WTP for these species. We designed a survey containing a logbook that respondents could use to track their wildlife-related expenses over a three-month season. We recruited participants through email newsletters sent to Indiana residents in coordination with the Indiana DNR. The first logbooks were sent in Fall 2024; those logbooks have been returned, and data are being coded. A second wave of surveys was sent in winter 2024-25, meant to track expenses through February 2025. We plan to send out two more waves of the survey for the spring and summer 2025 seasons.

Objective 4 – Assess the distributional effects of outdoor activities and deer and furbearer management.

The last activity involved finalizing the economic impact assessments with updated information and analyzing sectorwide responses to demand shocks in

hunting and trapping activities. For the 2020 hunting season, the total economic impacts of furbearer hunting were roughly $143.9 million, of which about $81.7 million was direct output. The output multiplier was 1.76, meaning for every dollar produced from hunting activities an additional $0.76 was generated. Demand shocks of hunting were transmitted mostly through daily and season expenditures on hunting. Most of the daily spending affected the retail sector, including gasoline and groceries. Restaurants were also primary beneficiaries of changes in these expenses. Warehousing and storage were the most affected among all indirectly affected industries. For the seasonal expenses category, retail-sporting goods were most impacted, followed by general merchandise stores, dog food manufacturers, and truck transportation. During the 2020 trapping season, the total economic impact generated from these activities was roughly $2.5 million, out of which about $1.4 million was direct output. Similarly, demand shocks in trapping were most felt by retail sectors selling general merchandise, gasoline, and restaurants in the daily spending category. Retail industries that sell clothing, sporting goods, and general merchandise were most affected in the seasonal spending category, followed by trucking and the production of synthetic dyes and pigments. Shocks in spending on durable items were captured mainly by boat building, motor vehicles and parts dealers; truck trailer manufacturers; and small arms, ordnance, and accessories manufacturers. We will further update the results of sectorwide responses to demand shocks by comparing the effects across different years.

The Economic Contribution of Deer Hunting in Indiana

Claire Bonham (Loyola University Chicago)
Richard Melstrom (Loyola University Chicago)
Carson Reeling (Purdue University).

Overview

Deer hunting is far more than a popular recreational activity in Indiana, it is a significant economic engine. Each year, nearly 200,000 hunters take to the state's fields and forests to harvest about 120,000 deer. This activity contributes to the state's economy and prosperity in several ways.

Economic contributions flow through three primary channels:

1. Business and Employment Income: Hunter expenditures represent a contribution to Indiana's economy through purchases of hunting equipment, transportation, lodging, food, and related goods and services. These dollars support local businesses and create jobs.
2. Government Revenue: Hunting license sales fund conservation programs. Sales taxes from hunting-related purchases provide another source of revenue that comes back to the state through federal grants. The combined funding supports wildlife research, habitat restoration, public land maintenance, educational programming, and landowner assistance (Indiana Department of Natural Resources 2025).
3. Hunter Surplus Value: By maintaining affordable license prices rather than maximizing revenue, the Indiana DNR contributes to a residual or "surplus" value for hunters not captured in market transactions. This amount, while less visible than expenditure, represents a value that flows to hunters rather than to the government or businesses.

Contributions in Indiana

Table 10-1 shows the value in Indiana that accrues from deer hunting in the three

categories, in five-year intervals between 2006 and 2022. All values are inflation-adjusted to 2023 dollars. Contributions to business and employee income have fluctuated between $249 million and $349 million. DNR revenue from license sales reached nearly $13 million in 2022. This revenue does not include other sources, including sales taxes; total government revenue is therefore somewhat greater than that shown here. Hunter surplus value declined from nearly $20 million in 2011 to approximately $11 million in 2022, primarily due to decreasing hunter numbers, a pattern that can be found in other states (Winkler and Warnke 2013). The total economic contribution of deer hunting was $272 million in 2022.

Information about these contributions comes from various sources. The National Survey of Fishing, Hunting, & Wildlife-Associated Recreation is the key source for income and expenditures (U.S. Fish and Wildlife Service 2023). License revenue is calculated from state license sales and price data (Indiana Department of Natural Resources 2024). Surplus value comes from an economic analysis of license purchases in Indiana (Bonham et al. 2025).

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Table 10-1. Value in Indiana that accrues from deer hunting in the three categories between 2006 and 2022. Inflation adjusted to 2023 dollars.

Year	Business and Employee Income	DNR Revenue (License Sales Only)	Surplus Value	Total Value
2006	$269,232,617	$9,712,278	$17,904,384	$296,849,279
2011	$348,689,399	$10,862,793	$19,900,656	$379,452,848
2016	$302,266,792	$11,005,583	$12,227,976	$325,500,351
2022	$249,251,036	$12,400,366	$10,760,185	$272,411,587

Testing And Validation of Telomere-Based Age Estimates In Wildlife

Cost: $383,860 federal dollars; $0 state dollar
October 1, 2022 – June 30, 2025

Project Personnel

- Dr. Andrew DeWoody – Principal Investigator, Purdue University
- Jarred Brooke – Research Scientist (Academic Research), Emory University
- Julia Buchannan-Schwanke – Ph. D. Candidate, Graduate Research Assistant, Purdue University
- Dr. Joe N. Caudell – DNR Project Liaison, Indiana DNR Division of Fish & Wildlife
- Geriann Albers – DNR Project Liaison, Indiana DNR Division of Fish & Wildlife

Project Overview

Determining the age structure of wildlife and fishery populations remains difficult because current methodologies (e.g., tooth wear and replacement in deer or the use of otoliths in bony fishes) are largely subjective and of questionable validity (Hamlin et al. 2000; Foley et al. 2021; Osborne et al. 2022). Furthermore, they often rely on harvest-based sampling, are cost prohibitive, biased, incompatible with management objectives, and/or simply too imprecise for use when sample sizes are large (Rolandsen et al. 2008; Veiburg et al. 2020; Watter et al. 2021). Quantitative, objective, and validated methods of aging are needed for use by resource managers.

Reliable methods of aging wildlife are needed to inform effective management practices that are often based on population demographic models. Without accurate age and associated data (e.g., age-at-maturity), managers cannot reliably estimate population growth rates. This compromises the development of sustainable population targets and harvest quotas. For example, desert bighorn, pronghorn, and white-tailed deer management are all driven (at least in principle) by sex- and age-based population models; however, aging methods for all three species are suspect (Lubinski 2001; Hamlin et al. 2008; Schindler et al. 2017). Accurate age structure data (often age-at-harvest) can also be an important source of auxiliary data when developing integrated population models for harvested wildlife species (Fieberg et al. 2010; Allen et al. 2018; Furnas et al. 2018; Norton 2018). Here, we propose to develop and test DNA-based aging methods in white-tailed deer and coyotes. If successful, this DNA-based aging approach has the potential to be applied to many other taxa such as turkey, feral hogs, largemouth bass, sturgeon, and steelhead.

Telomeres are DNA sequences at the end of chromosomes that function much like aglets at the end of bootlaces; they serve to protect the integrity of the broader structure (chromosomes or laces). Telomeres consist of repeated sequences of nucleotides that allow for DNA replication without the loss of terminal bases or rearrangement of the chromosomal DNA (Blackburn 1991; Allsopp et al. 1992). Like aglets, telomeres also wear with age but do so in a fashion that can be accurately measured in terms of their length; that is, they get shorter over time. Hudon et al. (2021) showed that the polymerase chain reaction, when conducted using a quantitative, real-time thermal cycler, can be used with species-specific primers (derived from ultraconserved elements) to measure telomere length. This means that if calibrated using animals of known age, telomere measurements have the potential to accurately age animals.

Though this aging technique has not yet been tested in wildlife (or fish) of known age, in principle one could age deer or most other species this way. This DNA-based approach to individual inference is not without precedence; determining sex via DNA has long been validated and is straightforward in many taxa, including deer (e.g., Cathey et al. 1998; Furnas et al. 2018). For example, a tissue plug from a harvested deer carcass, an ear punch, feces, or naturally shed antlers may all be viable sources of DNA that could be used to assess the sex and the age structure of a deer herd. When validated, DNA techniques such as those we propose could be combined with recent advances in population modeling, offering managers increasingly detailed inference into population demography to meet management goals most effectively.

Methylation is a process that involves the addition of a methyl group to certain cytosine nucleotides ("CpG sites") in a DNA molecule (Lamka et al. 2022). Methylation is an epigenetic modification that does not alter the underlying DNA sequence of G's, A's, T's, and C's, but it is often involved in regulating gene expression (i.e., tuning the number of gene products produced). Genomic patterns of DNA methylation across nucleotide sites can vary as a function of chronological age. This phenomenon is often referred to as "epigenetic aging."

In humans, methylation at key CpG sites is remarkably accurate at predicting individual age across a wide variety of tissues and cell types (Horvath 2013). The Horvath Clock uses a weighted sum of DNA methylation levels at 323 CpG sites across the human genome, where weights at each site are determined based on an original training dataset. Horvath's multi-tissue age predictor in humans has a Pearson correlation coefficient (r) = 0.96 between estimated methylation age and true chronological age. Methylation assays are now emerging in wildlife biology too, and they appear to have much greater discriminatory power than do telomere assays (Laine et al. 2023; Le Clerq et al. 2023). For example, a recent paper describes a remarkably accurate methylation clock in brown bears (r = 0.98; Nakamura et al. 2023).

While most wildlife biologists use the tooth wear and replacement technique as the preferred method for aging due to the minimal costs associated, this method is of questionable accuracy and repeatability (Hamlin et al. 2000; Asmus and Weckerly 2011; Storm et al. 2014). Cementum annuli analysis is more accurate, but the accuracy still varies by the observer/expert and by species (Hamlin et al. 2000; Veiburg et al. 2020). The list price for basic cementum annuli aging by commercial labs such as Matson's and Wildlife Analytical Laboratories can range from $15-$75/sample, whereas the RT-PCR cost (not including labor) is similar and has the potential to be <$10/sample (Mahoney et al. 2004).

Objective 1 – Validate telomeric DNA-based age estimates and methylation aging estimates against an existing set of known-aged white-tailed deer, and coyotes and/or other wild mammals.

Performance Period 1 – M.S. student Julia Buchanan-Schwanke began working on this project in May 2023. She spent her summer learning basic laboratory procedures needed for the project. Once she had done so, in September 2023, she began experimenting with the telomere assays. She has already made substantial progress on optimizing one of six potential telomere assays, though she has made no attempts to systematically genotype known-aged animals. All the DNA from available coyote blood samples (2021 & 2022) and deer tissue (2021) have been extracted and are ready for aging assays. Our pilot studies of collecting DNA with nasal swabs and transferring the mucus to "FTA cards" was generally unsuccessful because the DNA yield (quality and quantity)

was subpar; however, those same swabs stored in a more economical lysis buffer yielded reasonable DNA. The lysis buffer extractions are now in progress, and we expect them to be finished in February or March. Buchanan-Schwanke also took two courses in the fall 2023 semester. The first helped improve her modeling abilities, and the second was an introduction to teaching in natural resources, which is a requirement for all FNR graduate students.

The most important update regarding Objective 1 is a press release by the Texas Parks and Wildlife Department (TPWD). In brief, on Dec. 1, 2023, TPWD notified the public that a case of chronic wasting disease had been detected in its captive, pedigreed, and known-aged deer herd, and the entire herd was euthanized. Unfortunately, TPWD did not notify us ahead of time so that we could collect DNA samples from these animals. This is still a developing situation, and we are in the process of evaluating our options (i.e., collecting DNA samples from other captive herds).

Performance Period 2 – In November 2023, DeWoody and Buchanan-Schwanke traveled to the USDA-APHIS facility near Logan, Utah to collect samples from known-aged coyotes. Buchanan-Schwanke participated in the facility's annual roundup for scheduled vaccines/health assessments and was part of the coyote blood collection process. In total, she collected n=83 known-aged coyote samples. After returning to campus, she successfully extracted DNA from most blood samples.

In January 2024, Purdue Wildlife Extension Specialist Jarred Brooke and Buchanan-Schwanke made a trip to the Kerr Wildlife Management Area (TPWD) to collect recent and historical antler samples for this project. Each antler was collected from a male deer of known age; the "recent" samples were collected within the last one to three years, and the "historical" samples were collected as far back as the 1970s. Antler shavings (drillings) were collected from >300 animals. During their Texas trip, Brooke and Buchanan-Schwanke discussed the nasal swab samples collected on our behalf by TPWD after the euthanasia of its deer herd. When funding is available, TPWD plans to test a single swab from each deer for CWD before providing us with the remaining swabs from all the CWD-negative deer. All antler samples (n=310) from the January 2024 collecting trip have since been processed in our genetics lab and most have yielded sufficient DNA for estimating telomere length. Since the last update in November 2023, we have successfully conducted three assays to estimate telomere length in all samples (i.e., deer and coyote). Julia has evaluated roughly half of these ~800 coyote + deer samples using these telomere length assays.

In addition to telomere lengths, each sample of unknown age also requires evaluation of one or more "control" loci to help determine the amount of initial template DNA so that telomere amplification efficiency can be quantified. We originally planned to use the universal ultraconserved elements (UCEs) described by Hudon et al. (2020) as such controls, but in our lab their UCE loci do not amplify as expected or originally reported. Accordingly, we are now designing new UCE primers tailored for work specifically on white-tailed deer and on coyotes.

The Indiana DNR has agreed to continue collecting hunter-harvested deer samples (incisor and tissue) for our collaborative research. Regarding coyotes, in accordance with our MOU with USDA APHIS, we can receive 31 additional samples from the captive coyotes at the facility in Logan, Utah. Supplies for sample collection were sent to the facility on Sept. 16, 2024, and the samples will be collected on our behalf.

Since November 2023, Buchanan-Schwanke has taken five different courses toward her minimum of 24 course credit hours required by the department for all M.S. students. She is now taking an Ecological Statistics course and an introductory Bioinformatics course. In the spring of 2025, she will take a required Extension course and serve as a teaching assistant for an undergraduate course in Conservation Genetics. Buchanan-Schwanke should have enough preliminary data to present at the spring 2025 meeting of the Indiana Chapter of The Wildlife Society, and she also plans to present her research at the American Society of Mammalogists' national conference in July 2025.

Objective 2 – Compare telomeric aging and methylation aging with tooth wear/replacement and cementum annuli using the same animals and/or additional wild mammals from various age classes to determine the most accurate aging methodology.

Performance Period 1 – In addition to courses and lab work, Buchanan-Schwanke attended The Wildlife Society's national conference in Louisville, Kentucky during November 2023. For her November 2023 field work, she and DeWoody (project primary investigator) traveled to the USDA-APHIS captive coyote facility in Logan, Utah and helped collect blood samples from the facility's fall roundup. Those samples were shipped to Purdue on Dec. 6, 2023, and processing (i.e., DNA extractions) will begin as soon as possible.

Performance Period 2 – As part of the ongoing collaboration with Purdue, Indiana DNR collected samples from hunter-harvest animals and provided estimates of age based on the tooth-wear and replacement (TWR) technique. Some of these samples included an incisor, so that age could be estimated using the cementum annuli (CA) technique, and a small piece of tissue so that age could be estimated using the telomere assays. Incisors were sent to Wildlife Analytical Labs (Montana) in September 2024 for CA age estimates. Results indicate that CA estimated deer ages range from 1.5 years to 10.5 years. There was generally poor correspondence between the CA estimated ages and the TWR estimated ages provided by Indiana DNR.

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Appendix. DMU Deer Data Sheets

DMU 1: Northwest

5/23/2024

Total Square Miles: 6,022
Square Miles of Deer Habitat: 1,245
Percent Deer Habitat: 21

Table 1. Total harvest, buck harvest, and doe harvest (error < 1 percent). Damage permits are issued by DNR to landowners to control deer damage. Deer vehicle collisions (DVC) and miles traveled are reported by the Indiana Department of Transportation. Mean CBAQ is the average county bonus antlerless quota of all counties in the DMU. The trend in total harvest, buck harvest, doe harvest, and DVCs are in standard deviations (SD) and are equivalent to effect size. A change greater than 2 SD is considered both a large and statistically significant effect size.

Year	Total	Total Trend in SD	Buck Harvest	Buck Trend in SD	Buck Harvest per SQ MI Habitat	Doe Harvest	Doe Trend in SD	Doe Harvest per SQ MI Habitat	% Doe in Harvest	Damage Permit Deer Taken	DVC per Billion Miles Traveled	DVC Trend in SD	Mean CBAQ
2009	24,688		11,806		9.5	12,882		10.3	52.2		256.6		6.3
2010	25,088	1.3	12,043	1.2	9.7	13,045	1.3	10.5	52.0		241.1	-1.3	6.4
2011	22,870	-0.4	11,139	-0.8	8.9	11,731	-0.2	9.4	51.3		232.8	-2.7	7.1
2012	23,755	-0.2	10,527	-3.3	8.5	13,228	1.4	10.6	55.7		206.4	-3.4	6.8
2013	20,195	-4.5	9,402	-3.3	7.6	10,793	-2.8	8.7	53.4		210.4	-1.4	5.8
2014	19,810	-1.8	9,456	-1.4	7.6	10,354	-1.9	8.3	52.3		200.0	-1.4	4.4
2015	19,854	-1.1	9,968	-0.5	8.0	9,886	-1.5	7.9	49.8		207.3	-0.6	4.3
2016	19,132	-1.2	9,849	-0.3	7.9	9,283	-1.4	7.5	48.5	165	185.7	-2.0	4.6
2017	17,327	-1.8	8,418	-3.1	6.8	8,909	-1.2	7.2	51.4	295	194.4	-0.8	3.3
2018	18,245	-0.9	9,463	0.1	7.6	8,782	-1.4	7.1	48.1	188	191.6	-0.8	2.6
2019	19,757	0.8	10,626	2.0	8.5	9,131	-0.5	7.3	46.2	180	201.4	0.7	2.0
2020	22,730	3.6	11,899	2.7	9.6	10,831	3.8	8.7	47.7	179	186.4	-1.1	2.0
2021	19,329	-0.1	10,482	0.3	8.4	8,847	-0.7	7.1	45.8	245	196.9	0.8	2.0
2022	22,763	1.6	12,561	1.8	10.1	10,202	1.0	8.2	44.8	263	207.6	2.4	2.0
2023	22,984	1.2	12,461	1.2	10.0	10,523	1.1	8.5	45.8	455	218.4	2.6	2.1

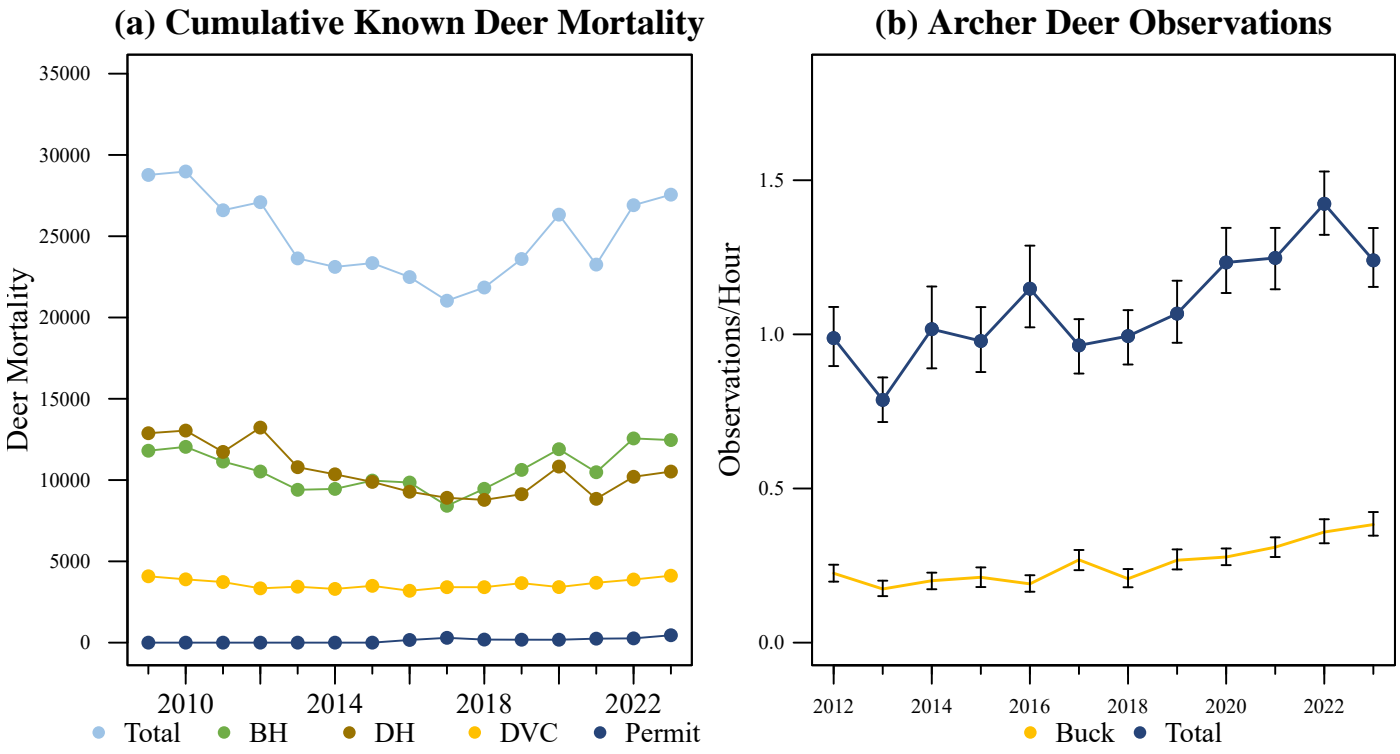

Figure 1. (a) The total known annual deer mortality based on buck harvests (BH), doe harvests (DH), deer vehicle collisions (DVC), and deer permit takes. (b) Total deer and buck observations per hour based on the Archer's Index.

DMU 1: Northwest

5/23/2024

Total Square Miles: 6,022
Square Miles of Deer Habitat: 1,245
Percent Deer Habitat: 21

Table 2. Estimated number of antlered (A) and antlerless (AL) deer harvested per hunter. Estimated totals may not match exactly with total number of deer harvested. Reporting errors are examined and investigated as they are located; therefore, subsequent reports may contain corrected totals.

Year	Total Hunters	0 A	1 A	2 A	3 A	0 AL	1 AL	2 AL	3 AL	4 AL	5 AL	6 AL	7 AL	8 AL	9 AL	10 AL
2016	14,283	6,488	7,740	54	1	5,665	6,580	1,580	347	72	24	13	2	0	0	0
2017	12,917	6,368	6,488	61	0	4,630	6,398	1,492	292	82	14	4	3	2	0	0
2018	13,603	6,088	7,428	86	1	5,356	6,340	1,535	302	47	13	6	2	0	0	1
2019	14,758	6,011	8,633	113	1	6,077	6,839	1,580	199	38	15	5	2	2	0	0
2020	16,468	6,993	9,329	145	1	6,327	7,703	2,058	289	63	15	6	5	0	0	0
2021	14,541	5,951	8,472	118	0	6,131	6,587	1,550	208	41	12	7	2	1	1	0
2022	16,644	6,142	10,348	151	3	7,171	7,283	1,862	248	62	11	4	1	0	1	1
2023	16,799	6,368	10,248	178	5	7,203	7,306	1,932	278	59	12	6	0	1	1	0

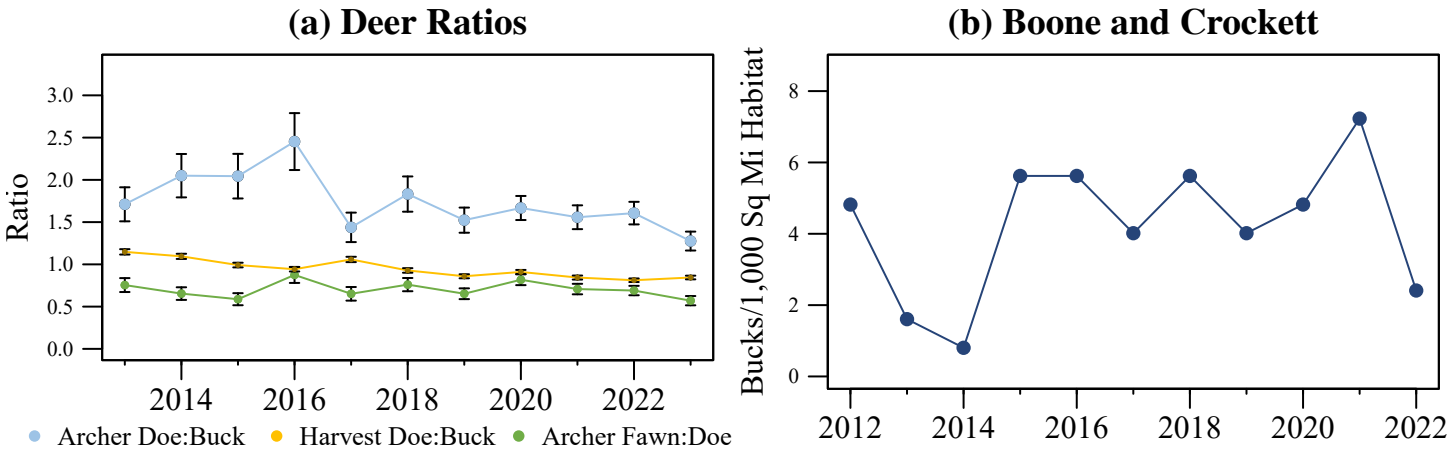

Figure 2. (a) Annual doe:buck ratios and fawn:doe ratios based on the Archer's Index and harvest records. (b) The number of Boone and Crockett bucks (minimum 160 score) per 1,000 square miles of deer habitat.

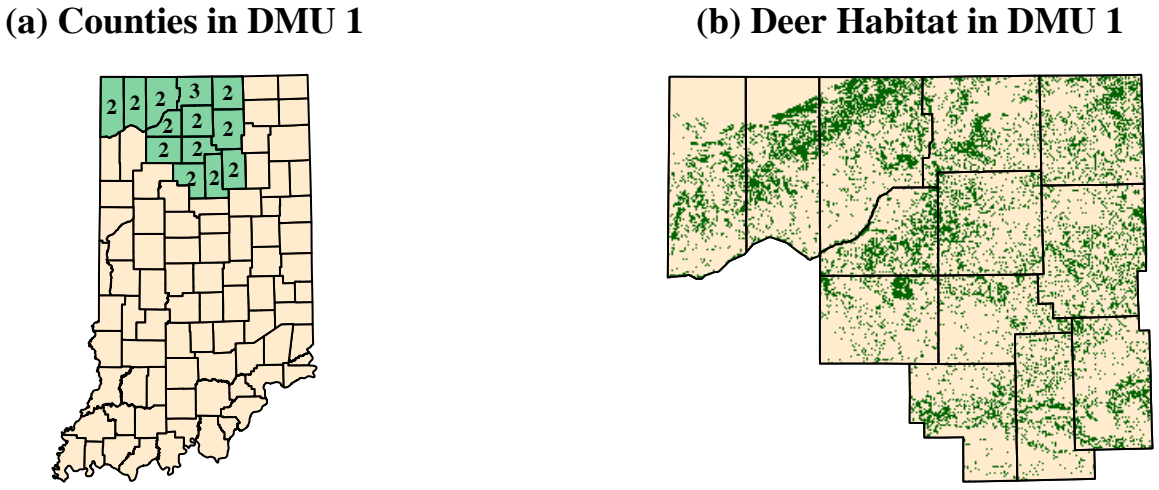

Figure 3. (a) Counties included in DMU 1 for summarizing harvest and deer management survey statistics. Labels are the 2023 county bonus antlerless quotas. (b) Green represents the land use types classified as deer habitat in DMU 1.

DMU 1: Northwest

5/23/2024

Deer Management Survey Results

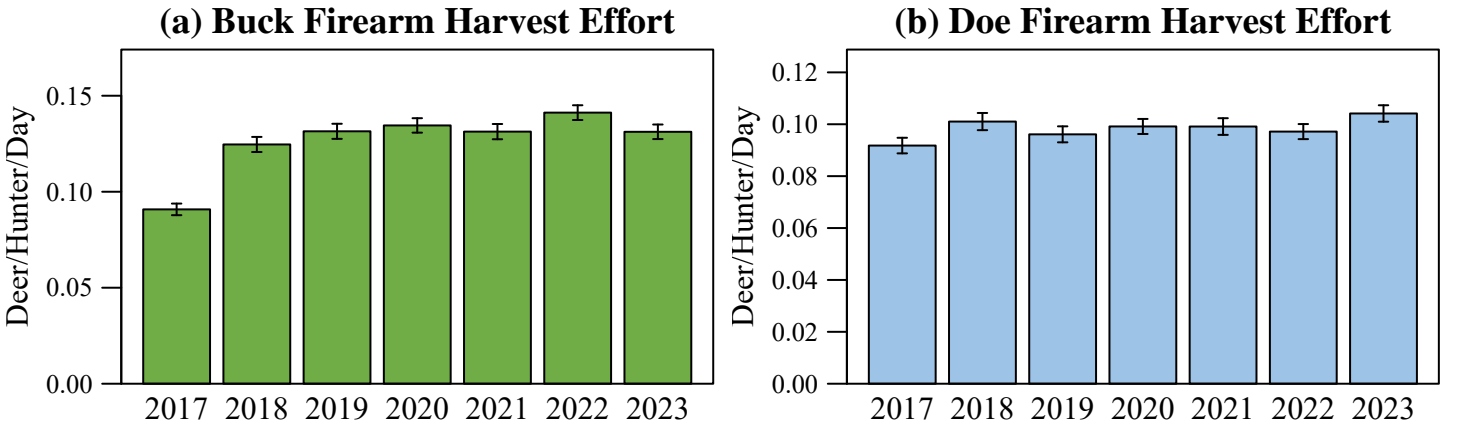

Figure 4. Firearm harvest effort is the number of bucks (a) and does (b) killed by firearms per hunter divided by the mean number of days hunted per hunter during the firearm season based on data reported in the deer management survey. Larger values (i.e taller bars) indicate less effort required to harvest a deer.

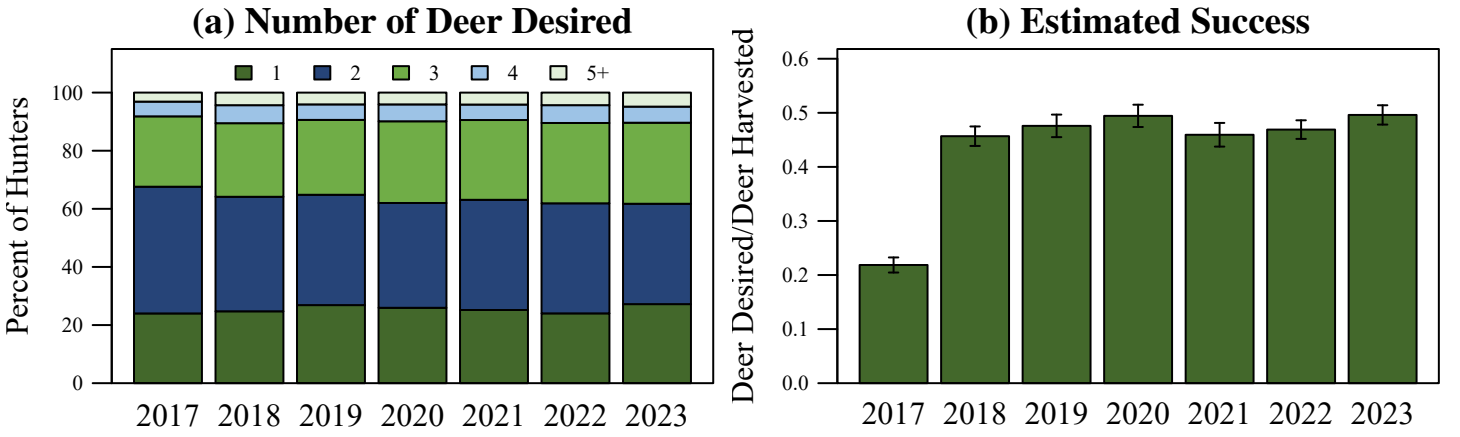

Figure 5. (a) The annual percent of hunters wishing to harvest each number of deer as reported in the deer management survey. (b) Success rate is estimated from the deer management survey as the Number of Harvested Deer/Number of Deer Desired (reported only; does not account for attempts that were not made). Larger values (i.e. taller bars) indicate greater success.

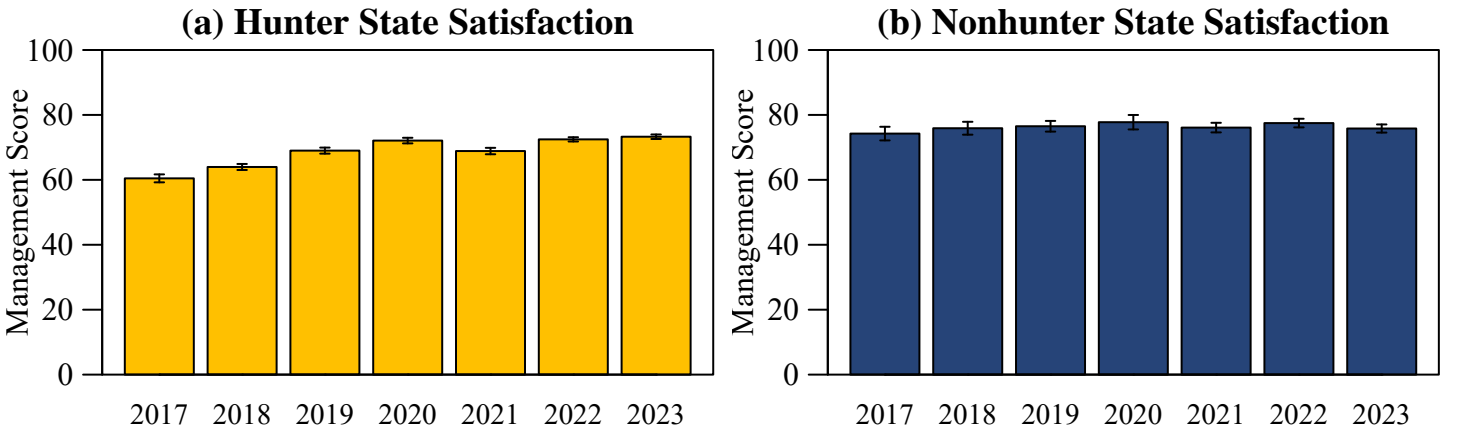

Figure 6. Hunters (a) and nonhunters (b) were asked to score the DNR's statewide deer management on a scale of 0 (poor) to 100 (excellent).

DMU 1: Northwest

5/23/2024

Deer Management Survey Results

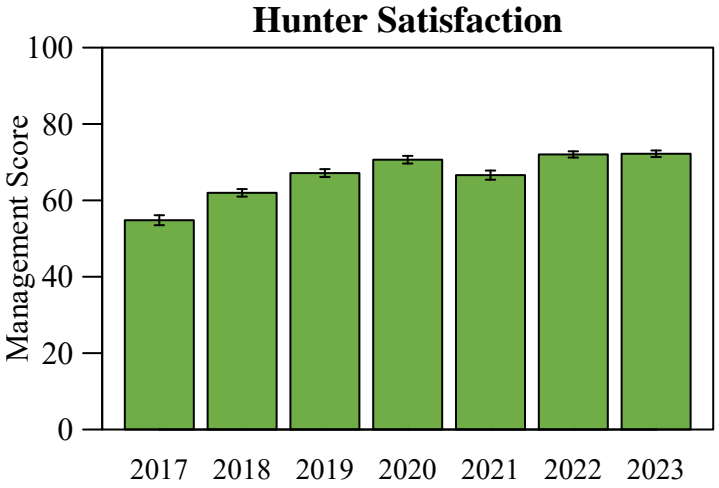

Figure 7. Hunters were asked to score the DNR's county deer management on a scale of 0 (poor) to 100 (excellent) for the county in DMU 1 where they hunt.

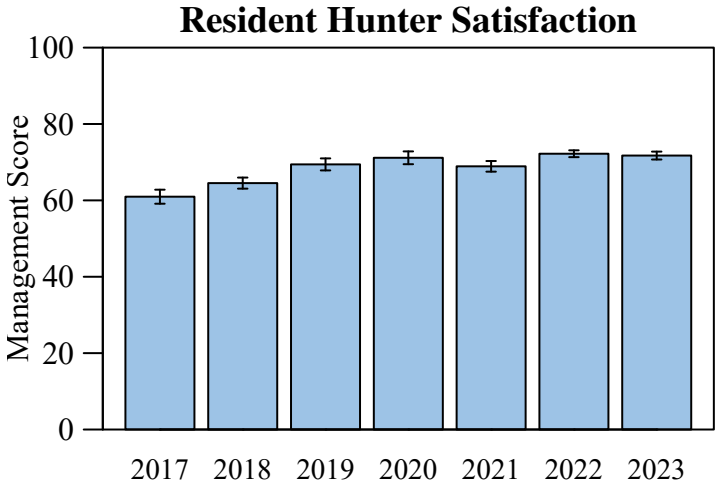

Figure 8. Hunters were asked to score the DNR's county deer management on a scale of 0 (poor) to 100 (excellent) for the county in DMU 1 where they live.

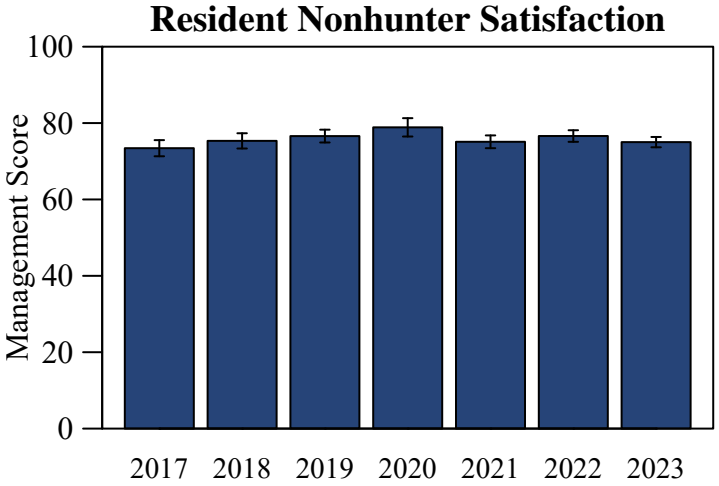

Figure 9. Nonhunters were asked to score the DNR's county deer management on a scale of 0 (poor) to 100 (excellent) for the county in DMU 1 where they live.

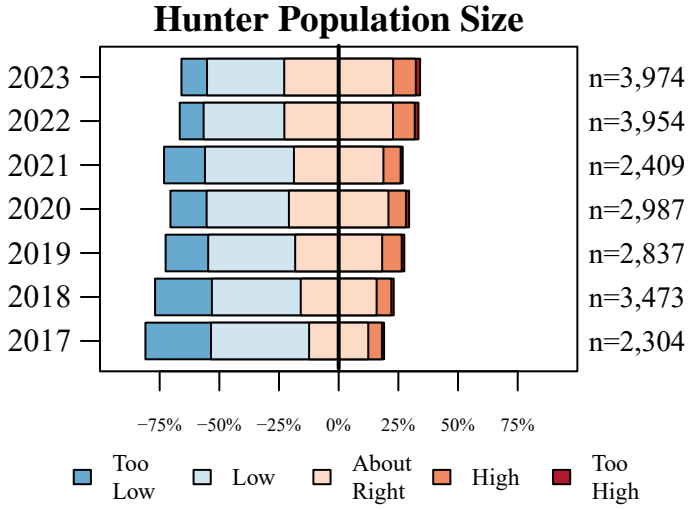

Figure 10. The current size of the deer population described by hunters in the county where they hunt in DMU 1.

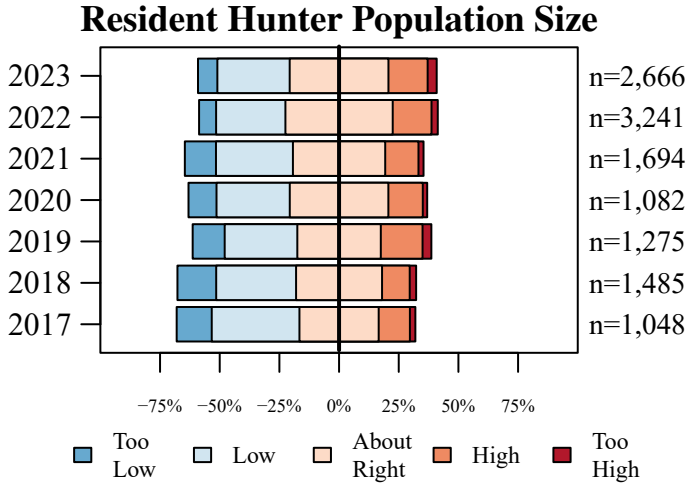

Figure 11. The current size of the deer population described by hunters in the county where they live in DMU 1.

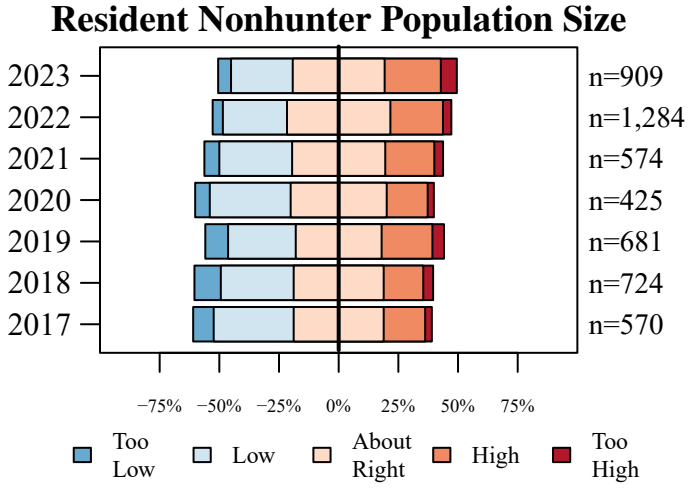

Figure 12. The current size of the deer population described by nonhunters in the county where they live in DMU 1.

DMU 1: Northwest

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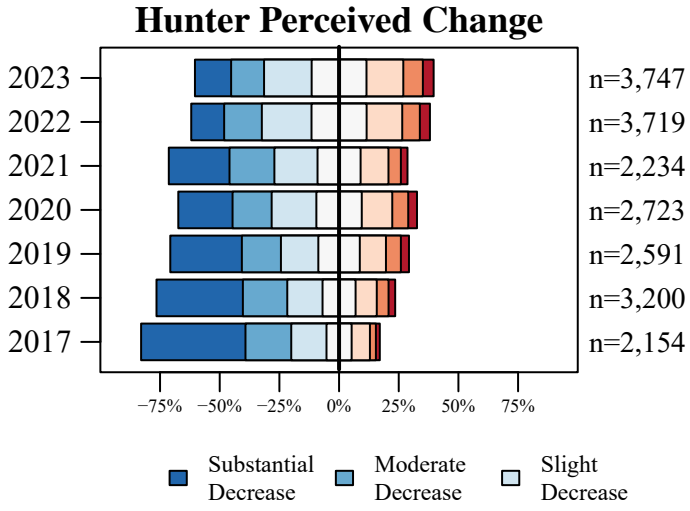

Figure 13. The number of deer seen compared to five years ago described by hunters in the county where they hunt in DMU 1.

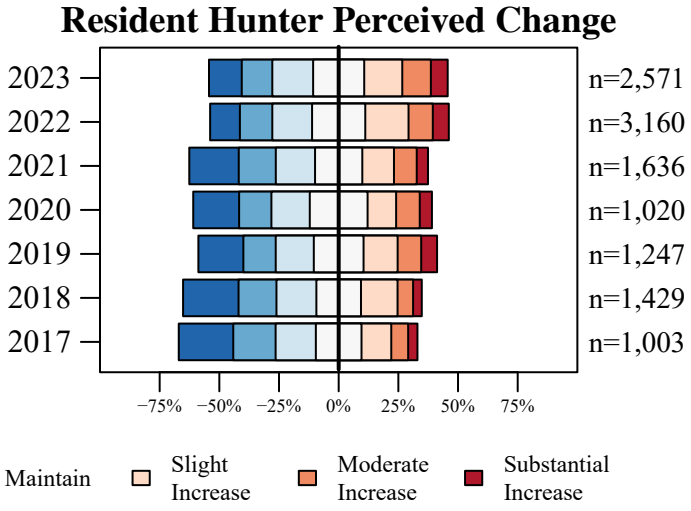

Figure 14. The number of deer seen compared to five years ago described by hunters in the county where they live in DMU 1.

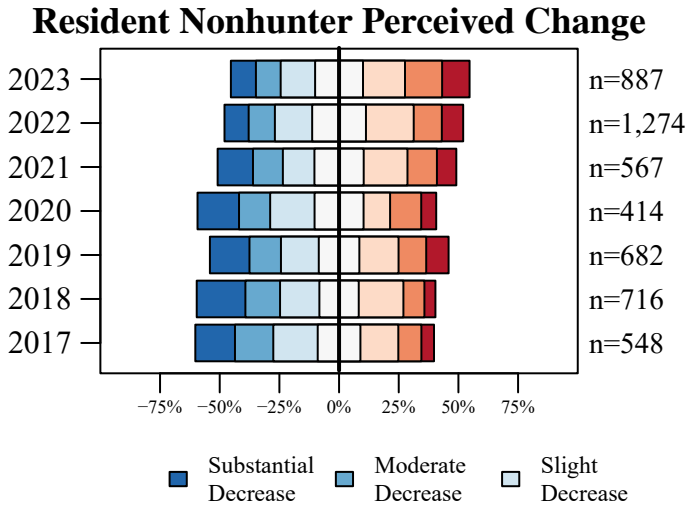

Figure 15. The number of deer seen compared to five years ago described by nonhunters in the county where they live in DMU 1.

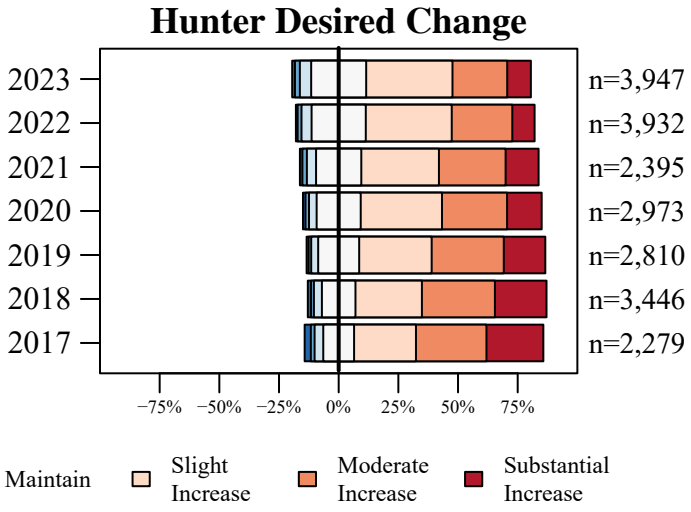

Figure 16. The desired change in the size of the deer population described by hunters in the county where they hunt in DMU 1.

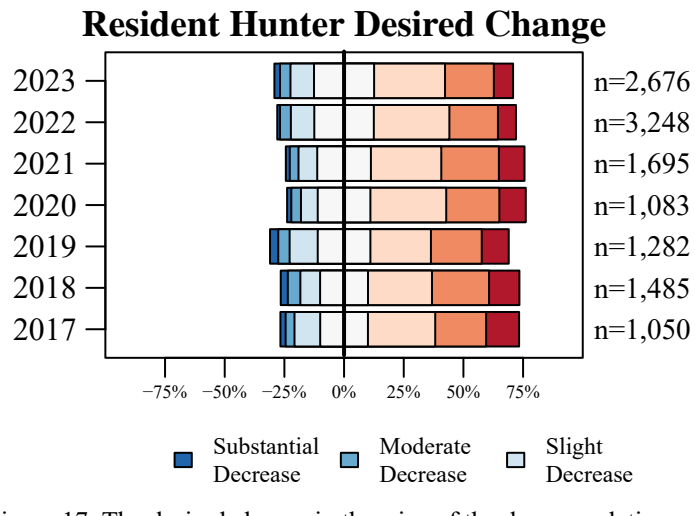

Figure 17. The desired change in the size of the deer population described by hunters in the county where they live in DMU 1.

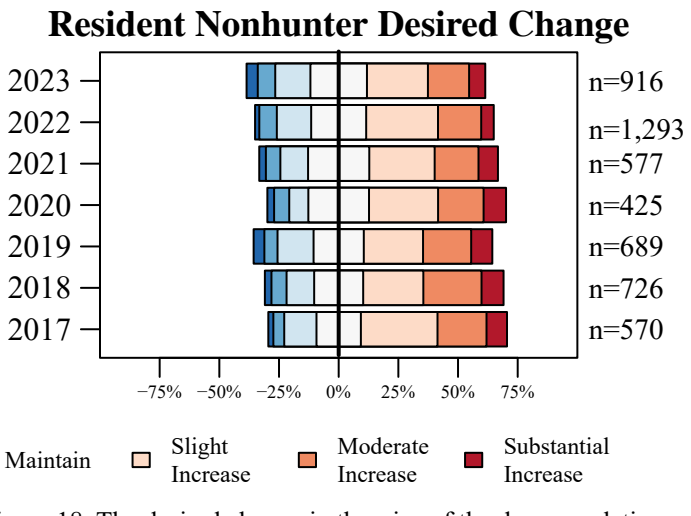

Figure 18. The desired change in the size of the deer population described by nonhunters in the county where they live in DMU 1.

DMU 1: Northwest

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Deer Management Survey Results

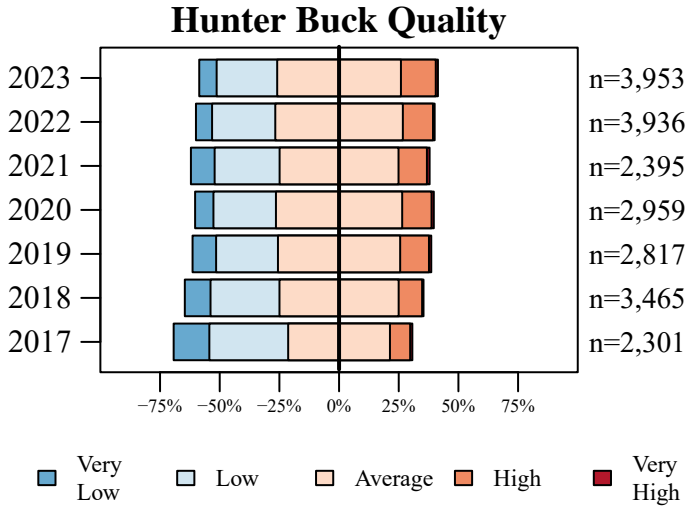

Figure 19. Hunters describe the quality of bucks in the county where they hunt in DMU 1.

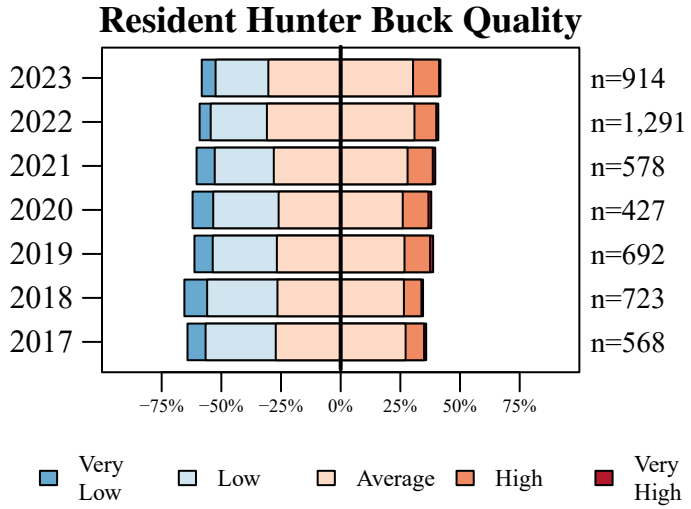

Figure 20. Hunters describe the quality of bucks in the county where they live in DMU 1.

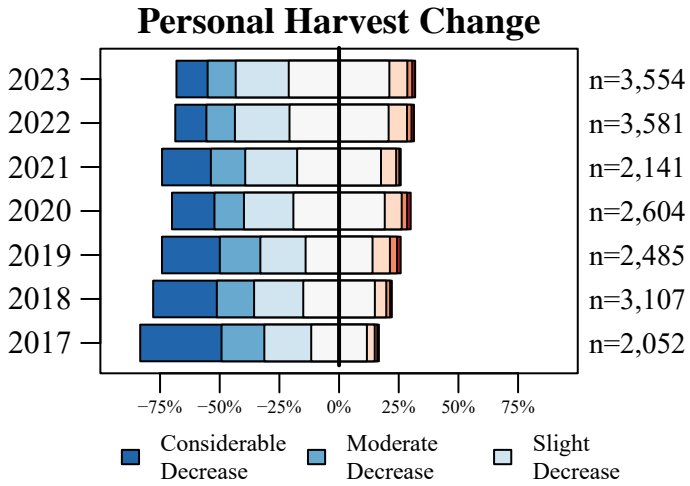

Figure 21. Opinion of hunters on how their personal number of harvested deer has changed over the last five years in a county in DMU 1.

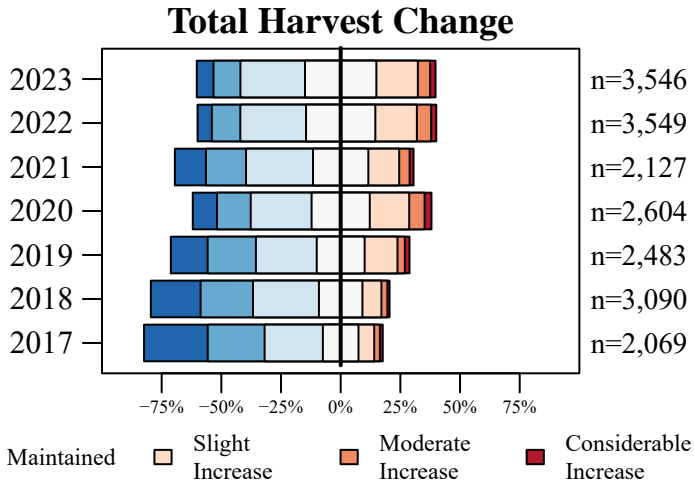

Figure 22. Opinion of hunters on how the total number of harvested deer has changed over the last five years in a county in DMU 1.

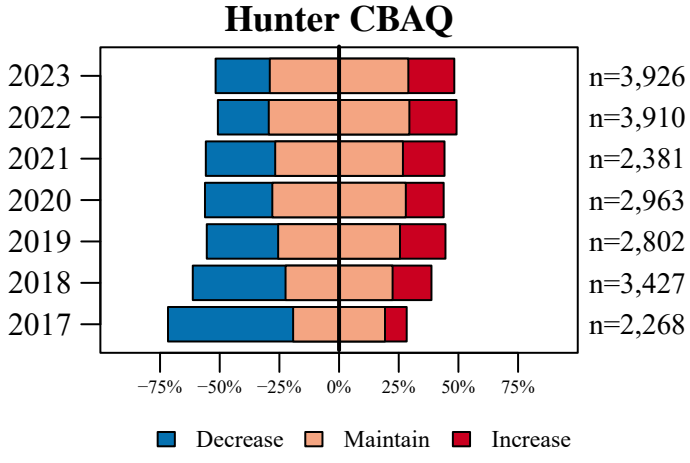

Figure 23. Opinion on how the County Bonus Antlerless Quota should change from hunters in the county where they hunt in DMU 1.

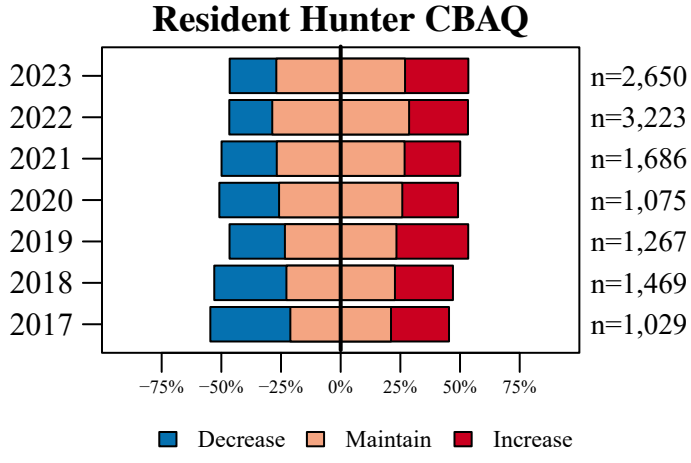

Figure 24. Opinion on how the County Bonus Antlerless Quota should change from hunters in the county where they live in DMU 1.

DMU 1: Northwest

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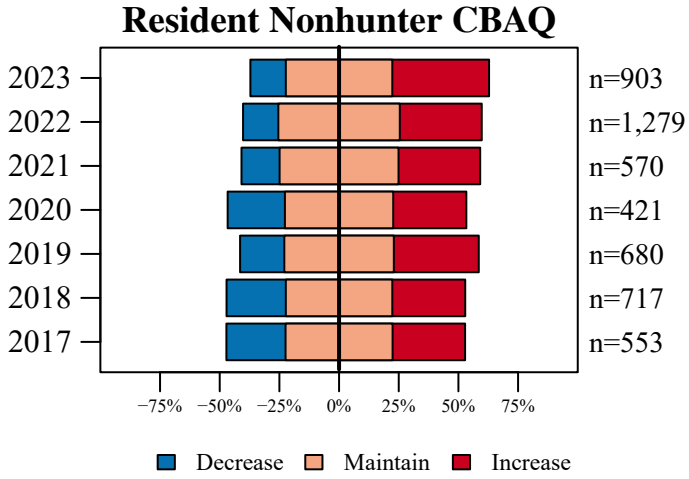

Figure 25. Opinion on how the County Bonus Antlerless Quota should change from nonhunters in the county where they live in DMU 1.

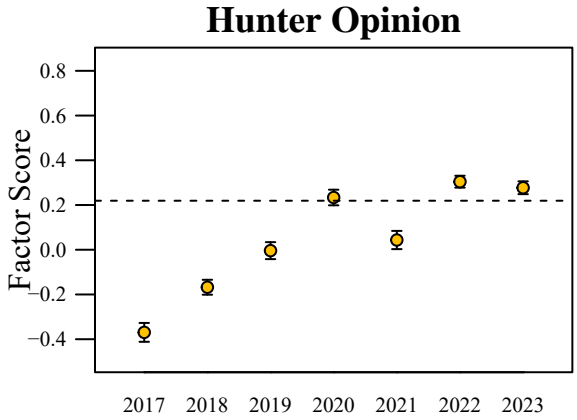

Figure 26. Hunter opinon scores over five years of the deer management survey. The score was aggregated using factor analysis of questions asked only to hunters. The dashed line represents the score if all questions are answered neutrally.

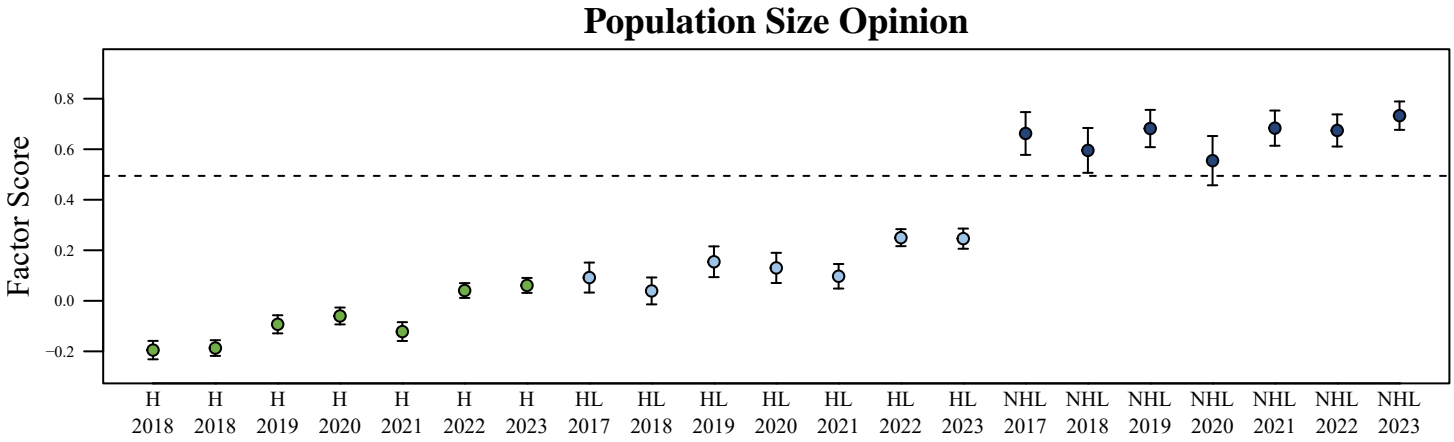

Figure 27. The opinion of nonhunters (NHL) and hunters in the county where they live (HL) and hunters in the county where they hunt (H) on deer population size. The score was aggregated using factor analysis of questions asked to all participants. The dashed line represents the score if all questions are answered neutrally.

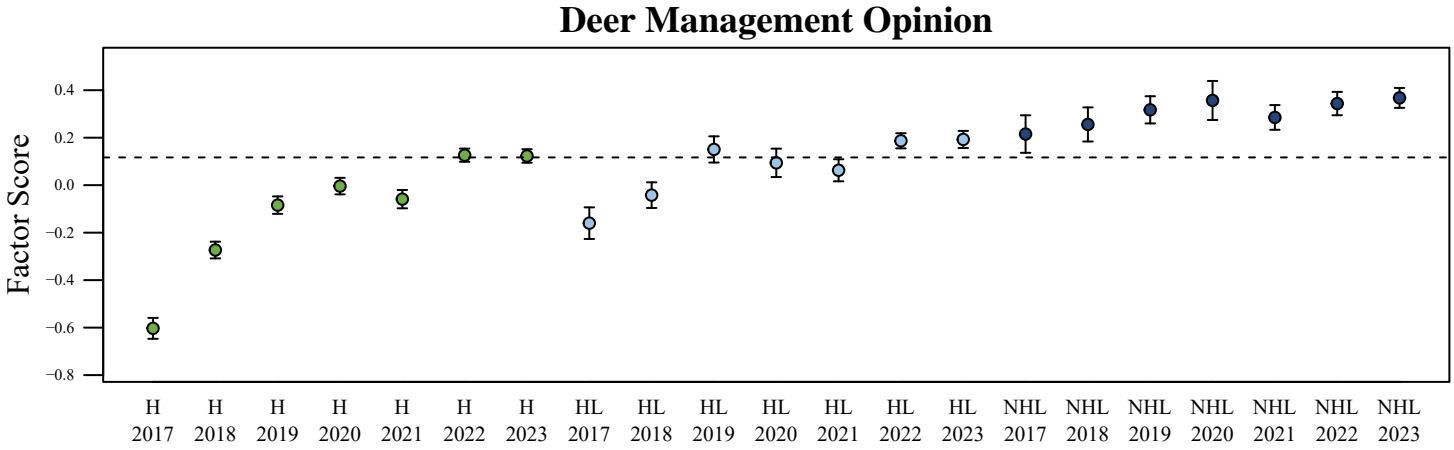

Figure 28. The opinion of nonhunters (NHL) and hunters in the county where they live (HL) and hunters in the county where they hunt (H) on deer management. The score was aggregated using factor analysis of questions asked to all participants. The dashed line represents the score if all questions are answered neutrally.

DMU 1: Northwest

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Deer Management Survey Results

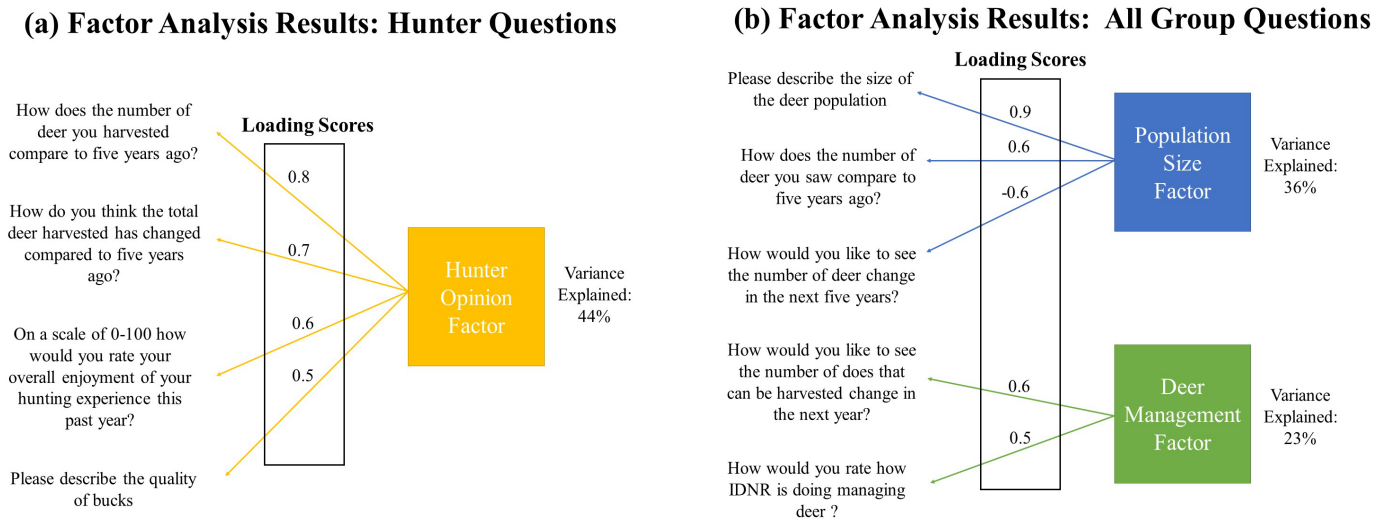

Figure 29. Results from two factor analyses used to develop the hunter opinion (a), population opinion (b), and management opinion (b) scores. Higher loading scores indicate a stronger correlation between the original question and the derived factor. These figures are included to help interpret Figure 26, Figure 27, and Figure 28.

DMU 2: Northeast

5/23/2024

Total Square Miles: 1,490
Square Miles of Deer Habitat: 506
Percent Deer Habitat: 34

Table 1. Total harvest, buck harvest, and doe harvest (error < 1 percent). Damage permits are issued by DNR to landowners to control deer damage. Deer vehicle collisions (DVC) and miles traveled are reported by the Indiana Department of Transportation. Mean CBAQ is the average county bonus antlerless quota of all counties in the DMU. The trend in total harvest, buck harvest, doe harvest, and DVCs are in standard deviations (SD) and are equivalent to effect size. A change greater than 2 SD is considered both a large and statistically significant effect size.

Year	Total	Total Trend in SD	Buck Harvest	Buck Trend in SD	Buck Harvest per SQ MI Habitat	Doe Harvest	Doe Trend in SD	Doe Harvest per SQ MI Habitat	% Doe in Harvest	Damage Permit Deer Taken	DVC per Billion Miles Traveled	DVC Trend in SD	Mean CBAQ
2009	12,268		5,375		10.6	6,893		13.6	56.2		588.9		6.0
2010	12,661	1.6	5,730	2.2	11.3	6,931	1.1	13.7	54.7		577.0	-0.6	6.0
2011	11,499	-0.3	5,150	-0.3	10.2	6,349	-0.3	12.5	55.2		519.2	-6.9	8.0
2012	9,941	-3.7	4,306	-4.3	8.5	5,635	-2.9	11.1	56.7		491.8	-2.7	8.0
2013	9,540	-2.0	4,412	-1.4	8.7	5,128	-2.5	10.1	53.8		533.1	-0.4	5.0
2014	8,610	-1.9	4,132	-1.4	8.2	4,478	-2.2	8.8	52.0		515.9	-0.6	4.0
2015	9,123	-0.8	4,609	-0.2	9.1	4,514	-1.2	8.9	49.5		507.5	-0.6	3.5
2016	9,090	-0.6	4,676	0.4	9.2	4,414	-1.0	8.7	48.6	90	523.6	0.7	3.5
2017	7,994	-2.5	3,989	-2.0	7.9	4,005	-1.6	7.9	50.1	68	554.9	2.6	2.5
2018	8,880	0.0	4,600	0.8	9.1	4,280	-0.6	8.5	48.2	79	605.9	4.3	1.8
2019	9,785	2.3	5,141	2.3	10.2	4,644	1.5	9.2	47.5	61	634.2	2.3	1.5
2020	11,058	3.2	5,642	2.5	11.2	5,416	4.3	10.7	49.0	77	548.0	-0.3	1.5
2021	9,284	-0.1	4,986	0.3	9.9	4,298	-0.5	8.5	46.3	77	608.4	0.8	2.0
2022	11,132	1.5	5,963	1.8	11.8	5,169	1.2	10.2	46.4	85	625.2	0.9	2.0
2023	11,767	1.7	6,014	1.4	11.9	5,753	1.9	11.4	48.9	134	641.2	1.1	2.8

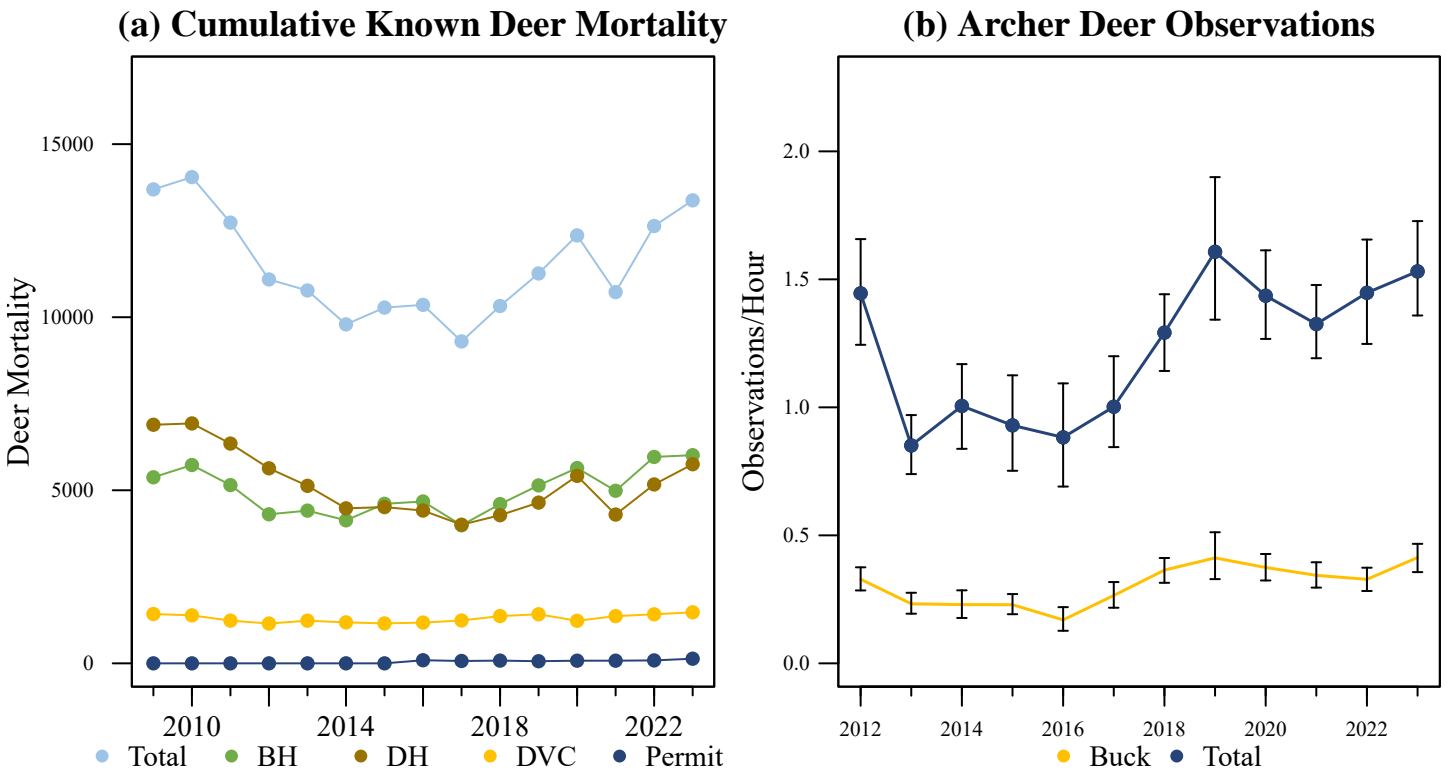

Figure 1. (a) The total known annual deer mortality based on buck harvests (BH), doe harvests (DH), deer vehicle collisions (DVC), and deer permit takes. (b) Total deer and buck observations per hour based on the Archer's Index.

DMU 2: Northeast

5/23/2024

Total Square Miles: 1,490
Square Miles of Deer Habitat: 506
Percent Deer Habitat: 34

Table 2. Estimated number of antlered (A) and antlerless (AL) deer harvested per hunter. Estimated totals may not match exactly with total number of deer harvested. Reporting errors are examined and investigated as they are located; therefore, subsequent reports may contain corrected totals.

Year	Total Hunters	0 A	1 A	2 A	3 A	0 AL	1 AL	2 AL	3 AL	4 AL	5 AL	6 AL	7 AL	8 AL	9 AL	10 AL
2016	6,866	3,128	3,726	11	1	2,729	3,175	772	147	36	7	0	0	0	0	0
2017	6,172	3,009	3,157	6	0	2,307	3,051	691	104	16	2	1	0	0	0	0
2018	6,874	3,127	3,716	31	0	2,693	3,401	662	100	15	2	0	1	0	0	0
2019	7,487	3,189	4,261	37	0	2,988	3,682	712	87	13	2	1	1	1	0	0
2020	8,193	3,583	4,558	52	0	3,090	3,990	971	109	28	5	0	0	0	0	0
2021	7,101	2,927	4,131	42	1	2,979	3,306	716	79	17	1	3	0	0	0	0
2022	8,310	3,278	4,979	53	0	3,512	3,724	936	114	17	2	4	1	0	0	0
2023	8,443	3,482	4,909	51	1	3,308	3,865	1,006	205	42	10	6	1	0	0	0

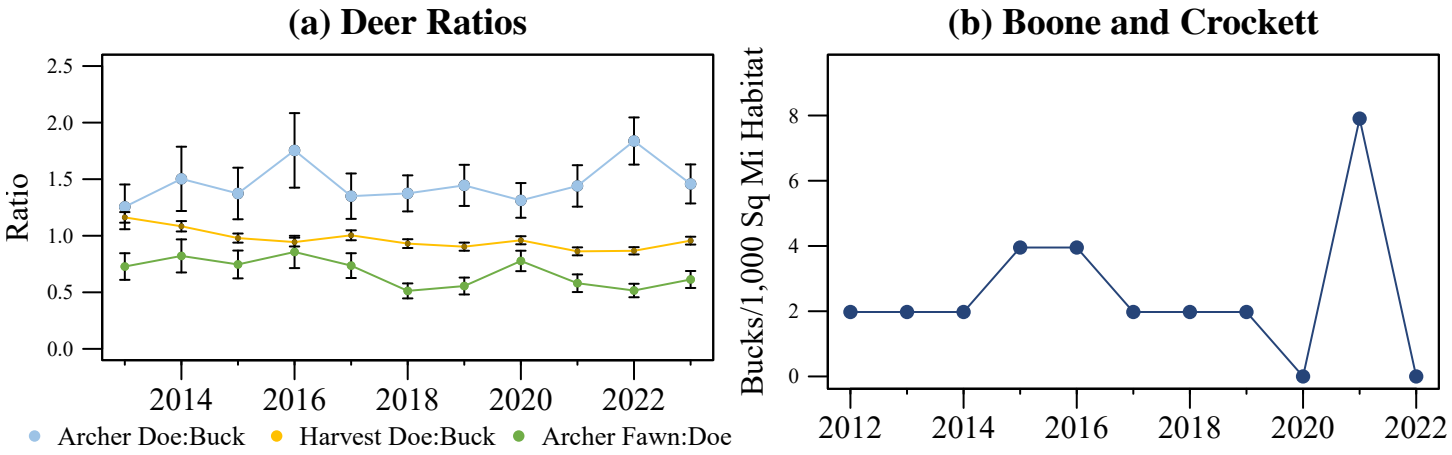

Figure 2. (a) Annual doe:buck ratios and fawn:doe ratios based on the Archer's Index and harvest records. (b) The number of Boone and Crockett bucks (minimum 160 score) per 1,000 square miles of deer habitat.

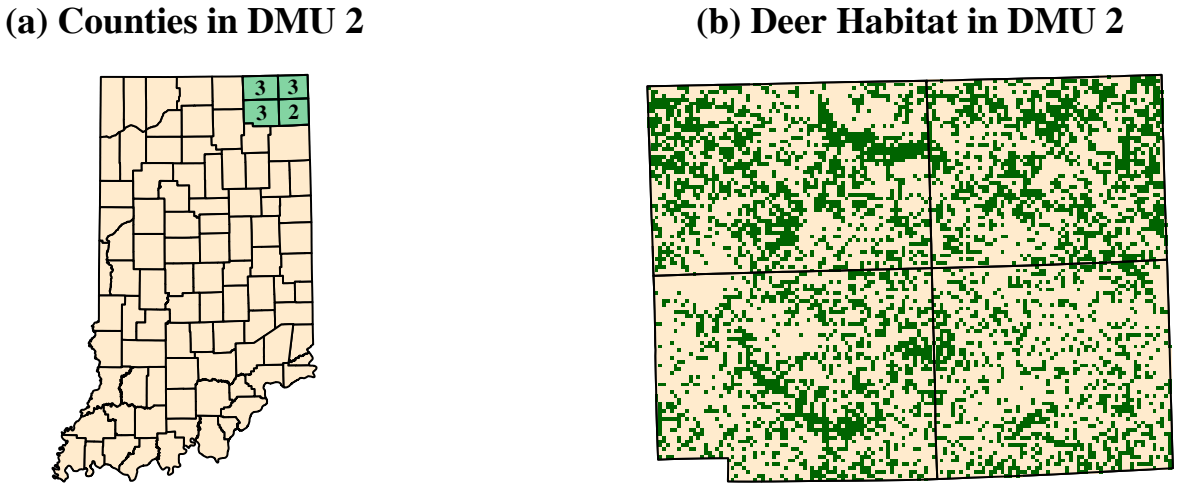

Figure 3. (a) Counties included in DMU 2 for summarizing harvest and deer management survey statistics. Labels are the 2023 county bonus antlerless quotas. (b) Green represents the land use types classified as deer habitat in DMU 2.

DMU 2: Northeast

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Deer Management Survey Results

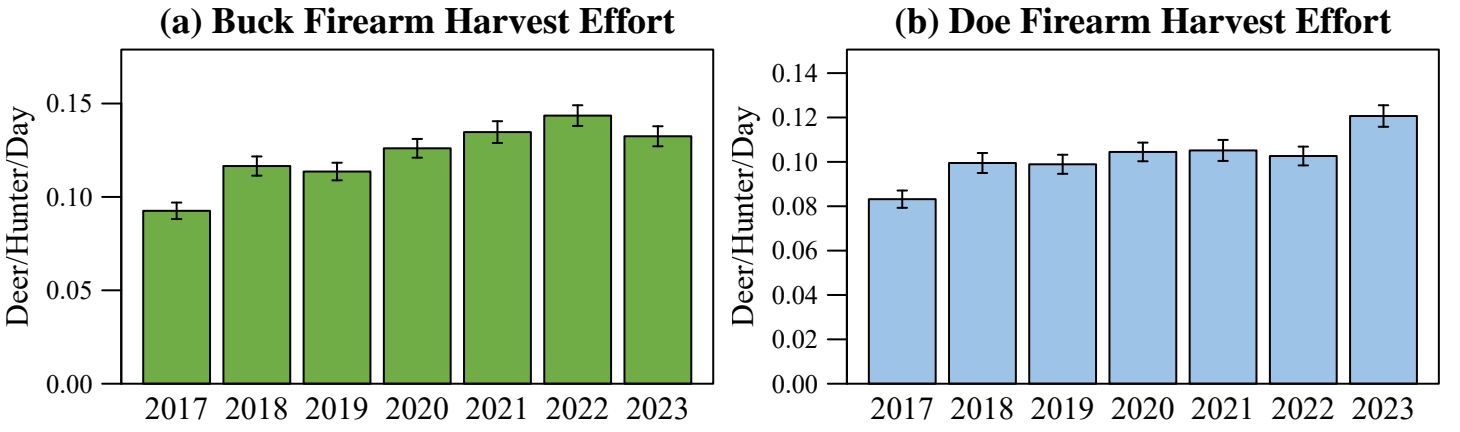

Figure 4. Firearm harvest effort is the number of bucks (a) and does (b) killed by firearms per hunter divided by the mean number of days hunted per hunter during the firearm season based on data reported in the deer management survey. Larger values (i.e taller bars) indicate less effort required to harvest a deer.

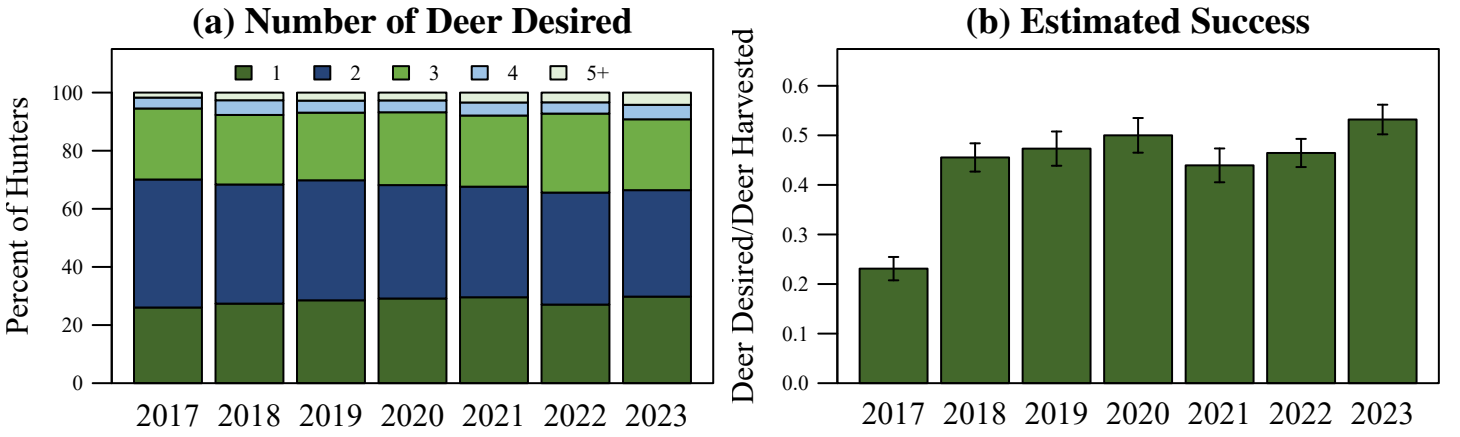

Figure 5. (a) The annual percent of hunters wishing to harvest each number of deer as reported in the deer management survey. (b) Success rate is estimated from the deer management survey as the Number of Harvested Deer/Number of Deer Desired (reported only; does not account for attempts that were not made). Larger values (i.e. taller bars) indicate greater success.

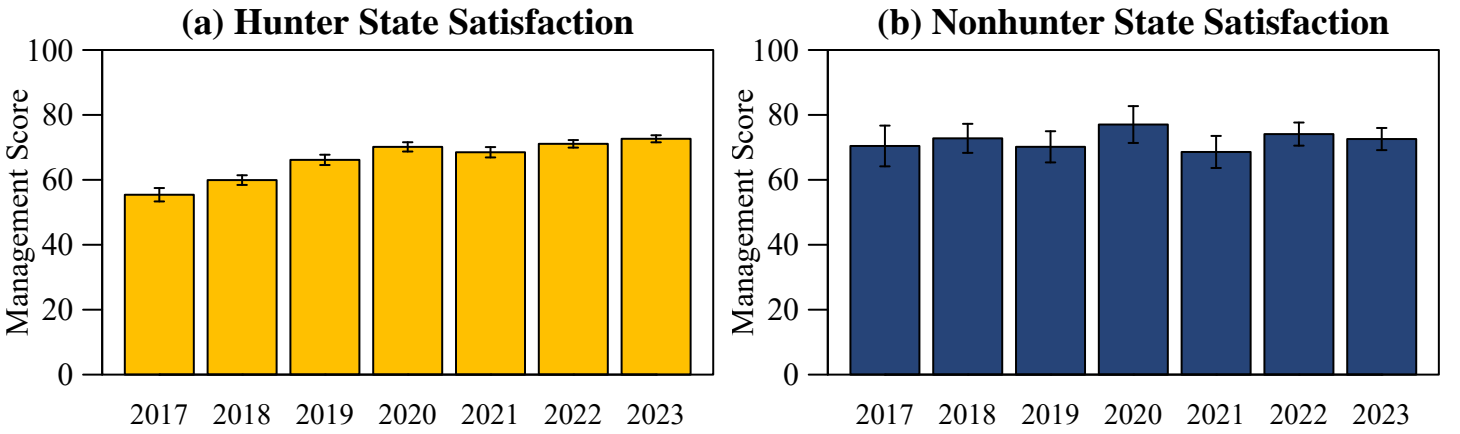

Figure 6. Hunters (a) and nonhunters (b) were asked to score the DNR's statewide deer management on a scale of 0 (poor) to 100 (excellent).

DMU 2: Northeast

5/23/2024

Deer Management Survey Results

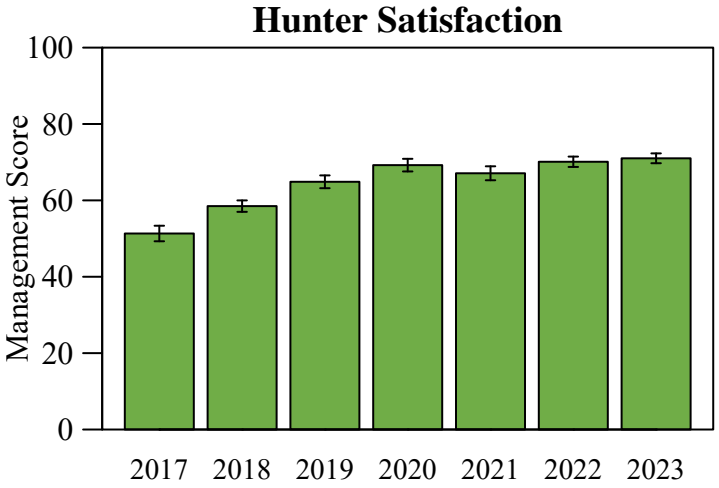

Figure 7. Hunters were asked to score the DNR's county deer management on a scale of 0 (poor) to 100 (excellent) for the county in DMU 2 where they hunt.

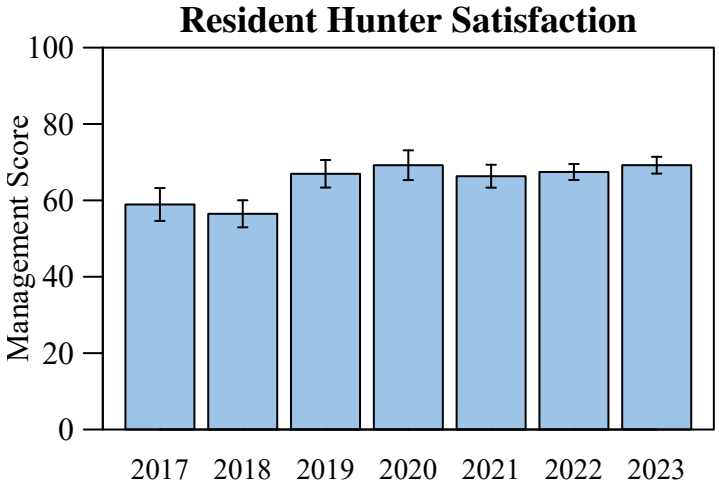

Figure 8. Hunters were asked to score the DNR's county deer management on a scale of 0 (poor) to 100 (excellent) for the county in DMU 2 where they live.

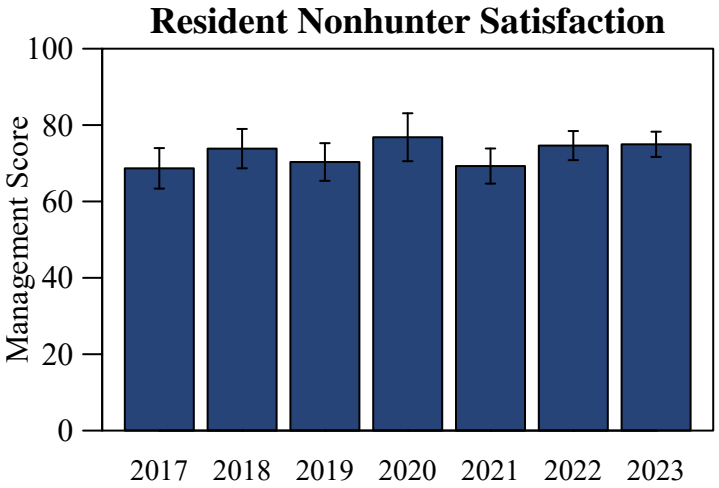

Figure 9. Nonhunters were asked to score the DNR's county deer management on a scale of 0 (poor) to 100 (excellent) for the county in DMU 2 where they live.

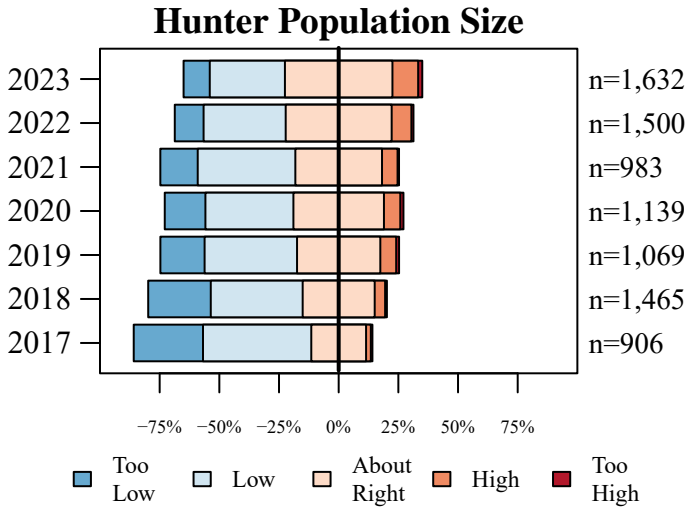

Figure 10. The current size of the deer population described by hunters in the county where they hunt in DMU 2.

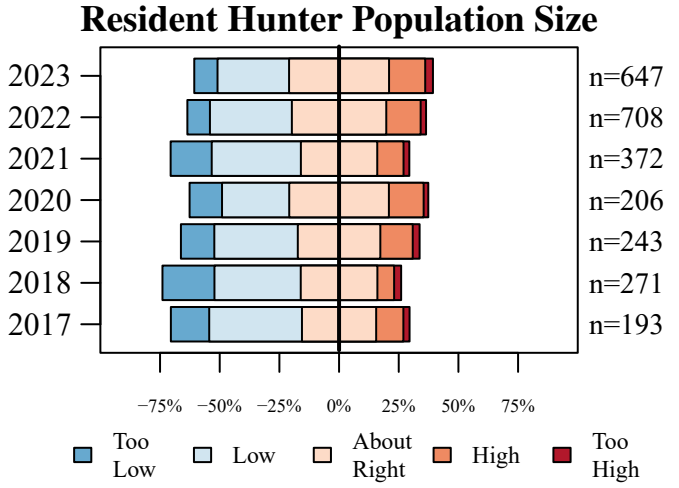

Figure 11. The current size of the deer population described by hunters in the county where they live in DMU 2.

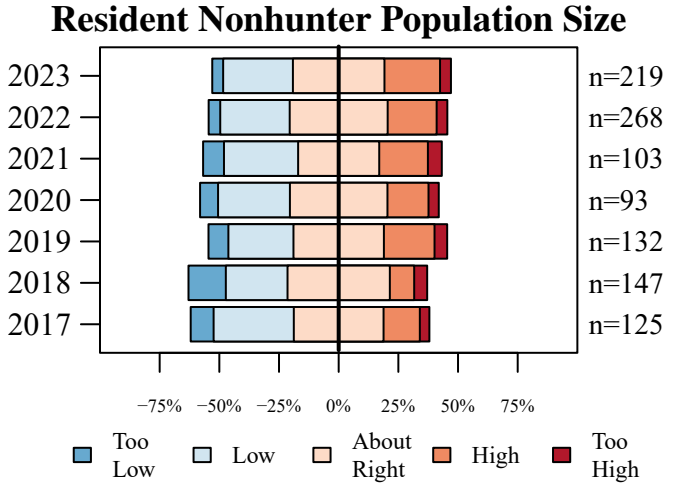

Figure 12. The current size of the deer population described by nonhunters in the county where they live in DMU 2.

DMU 2: Northeast

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Deer Management Survey Results

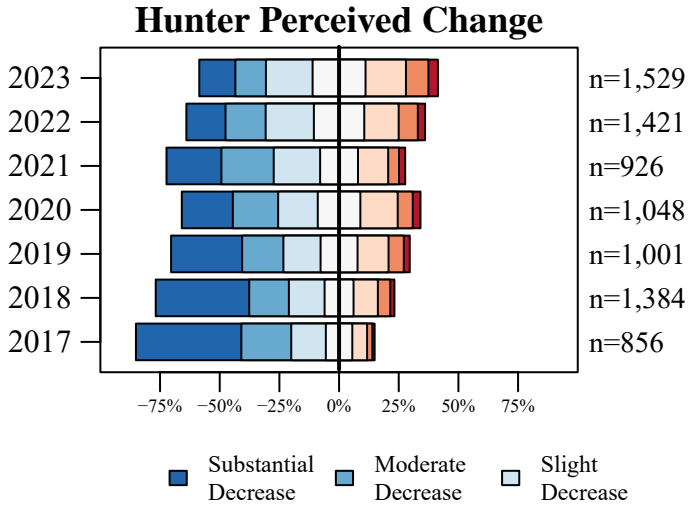


Figure 13. The number of deer seen compared to five years ago described by hunters in the county where they hunt in DMU 2.

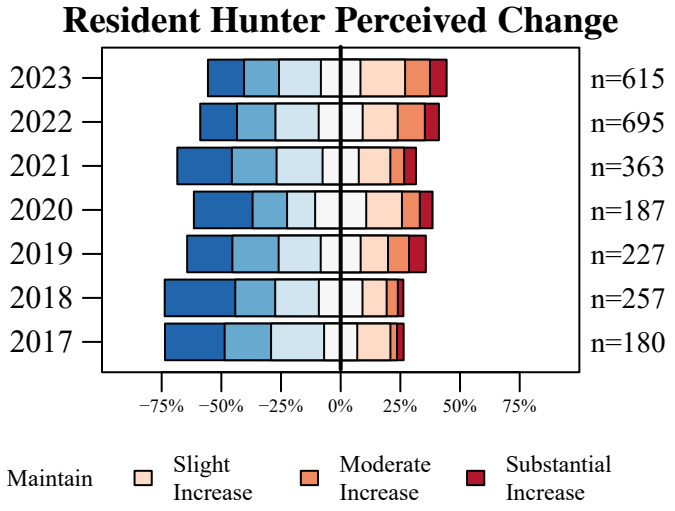


Figure 14. The number of deer seen compared to five years ago described by hunters in the county where they live in DMU 2.

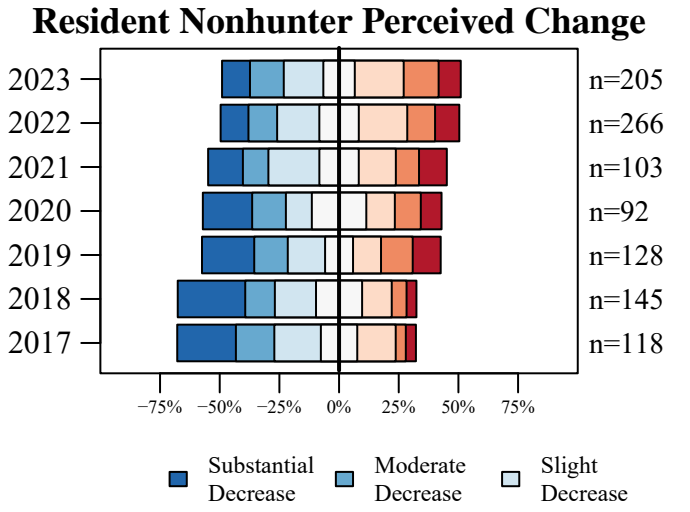


Figure 15. The number of deer seen compared to five years ago described by nonhunters in the county where they live in DMU 2.

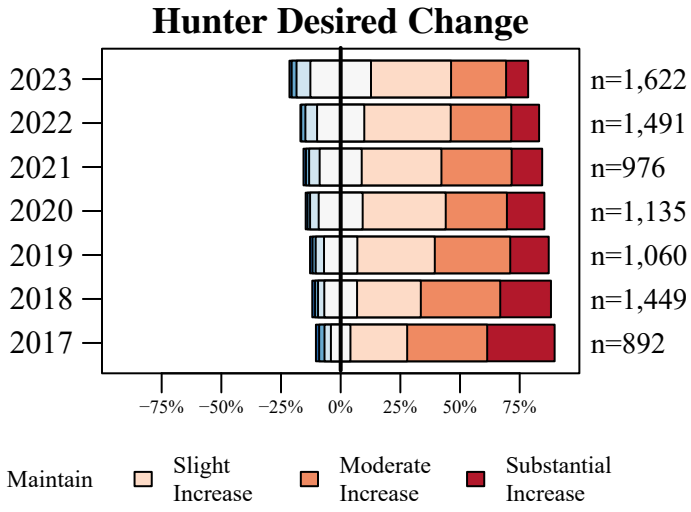


Figure 16. The desired change in the size of the deer population described by hunters in the county where they hunt in DMU 2.

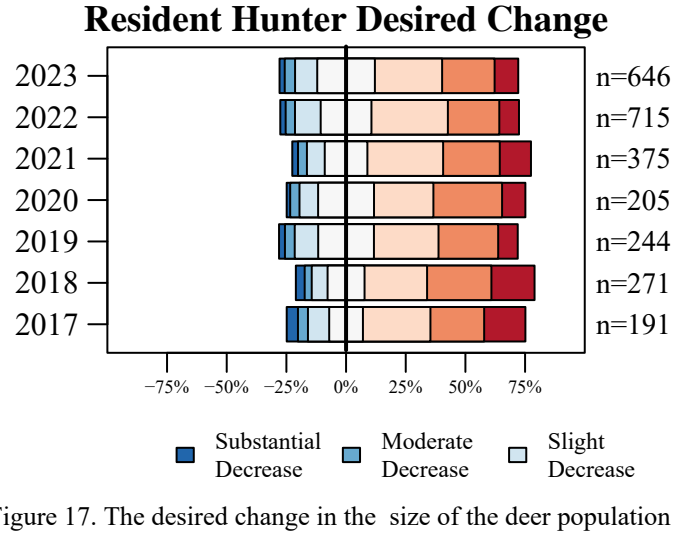


Figure 17. The desired change in the size of the deer population described by hunters in the county where they live in DMU 2.

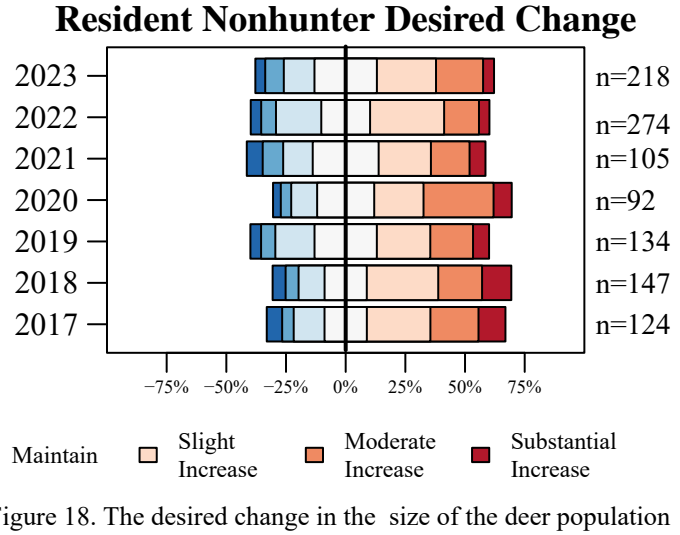


Figure 18. The desired change in the size of the deer population described by nonhunters in the county where they live in DMU 2.

DMU 2: Northeast

5/23/2024

Deer Management Survey Results

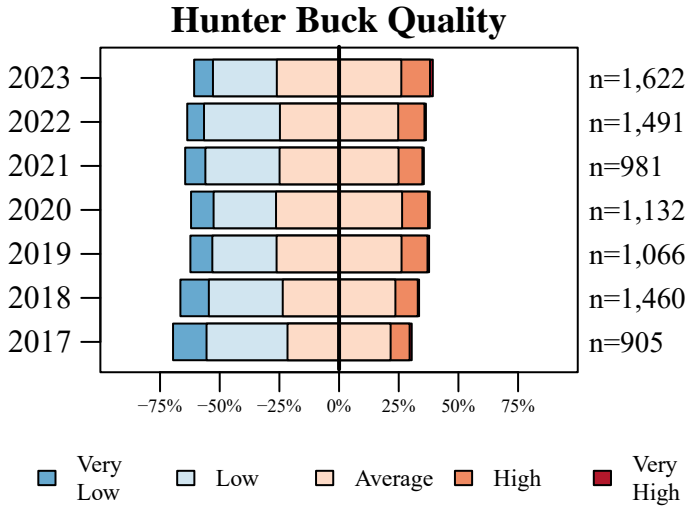


Figure 19. Hunters describe the quality of bucks in the county where they hunt in DMU 2.

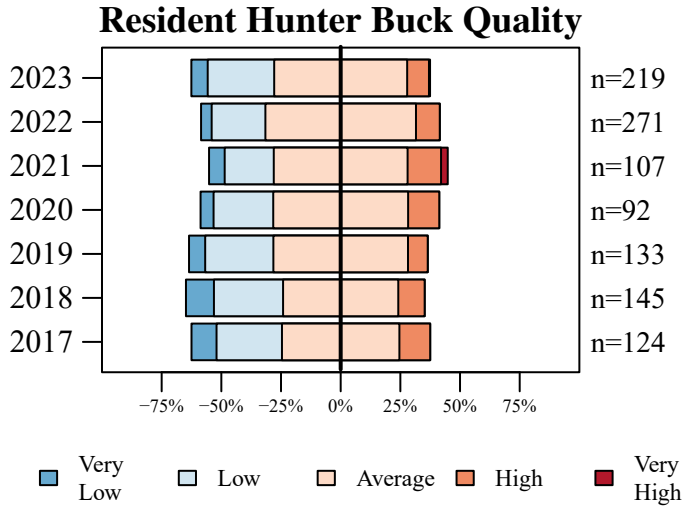


Figure 20. Hunters describe the quality of bucks in the county where they live in DMU 2.

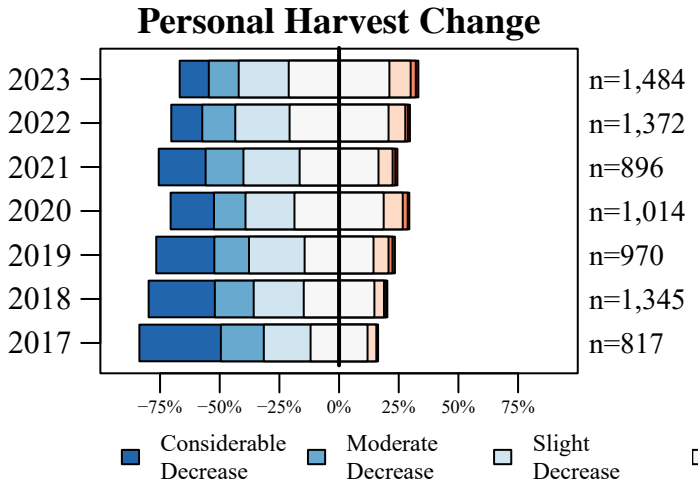


Figure 21. Opinion of hunters on how their personal number of harvested deer has changed over the last five years in a county in DMU 2.

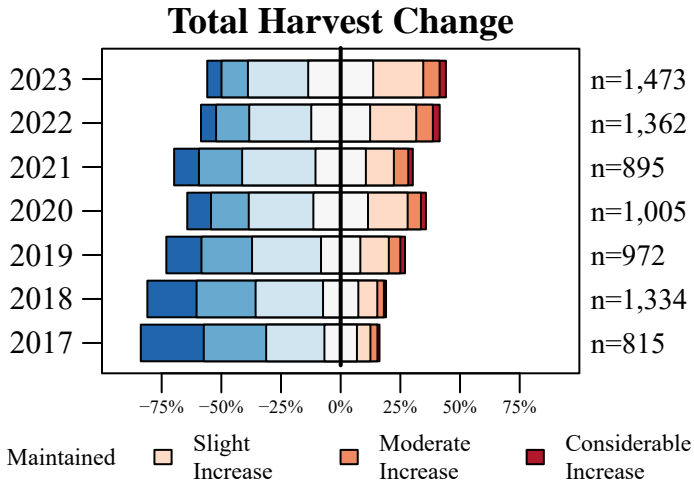


Figure 22. Opinion of hunters on how the total number of harvested deer has changed over the last five years in a county in DMU 2.

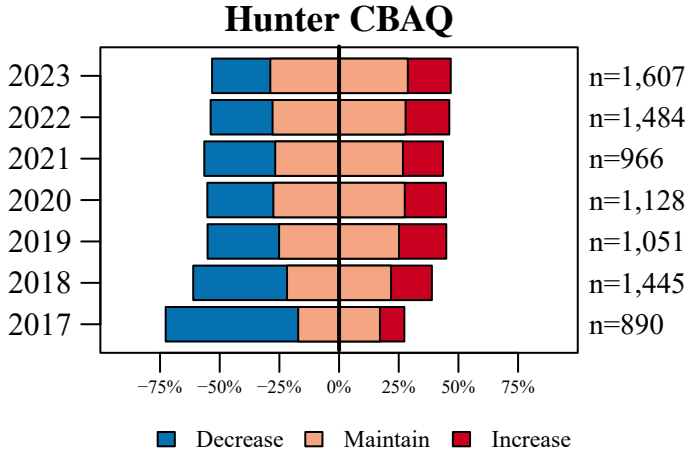


Figure 23. Opinion on how the County Bonus Antlerless Quota should change from hunters in the county where they hunt in DMU 2.

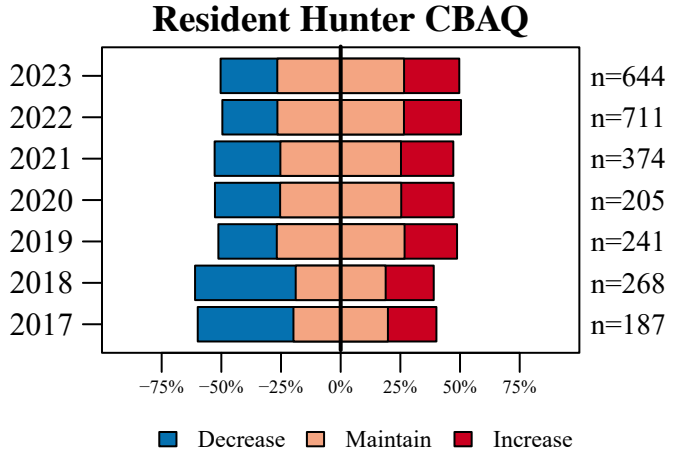


Figure 24. Opinion on how the County Bonus Antlerless Quota should change from hunters in the county where they live in DMU 2.

DMU 2: Northeast

5/23/2024

Deer Management Survey Results

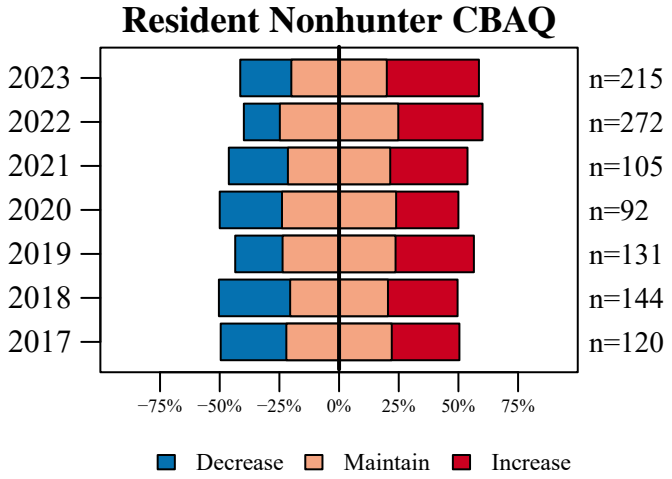


Figure 25. Opinion on how the County Bonus Antlerless Quota should change from nonhunters in the county where they live in DMU 2.

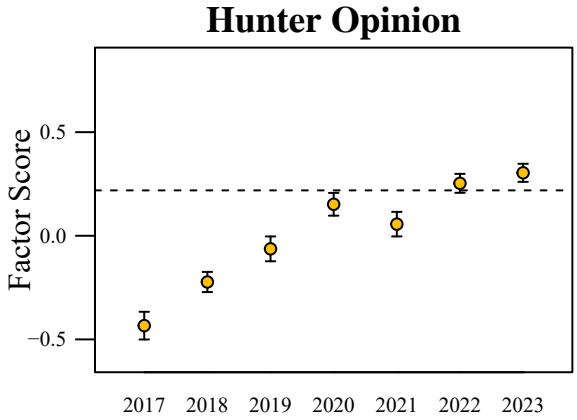


Figure 26. Hunter opinon scores over five years of the deer management survey. The score was aggregated using factor analysis of questions asked only to hunters. The dashed line represents the score if all questions are answered neutrally.

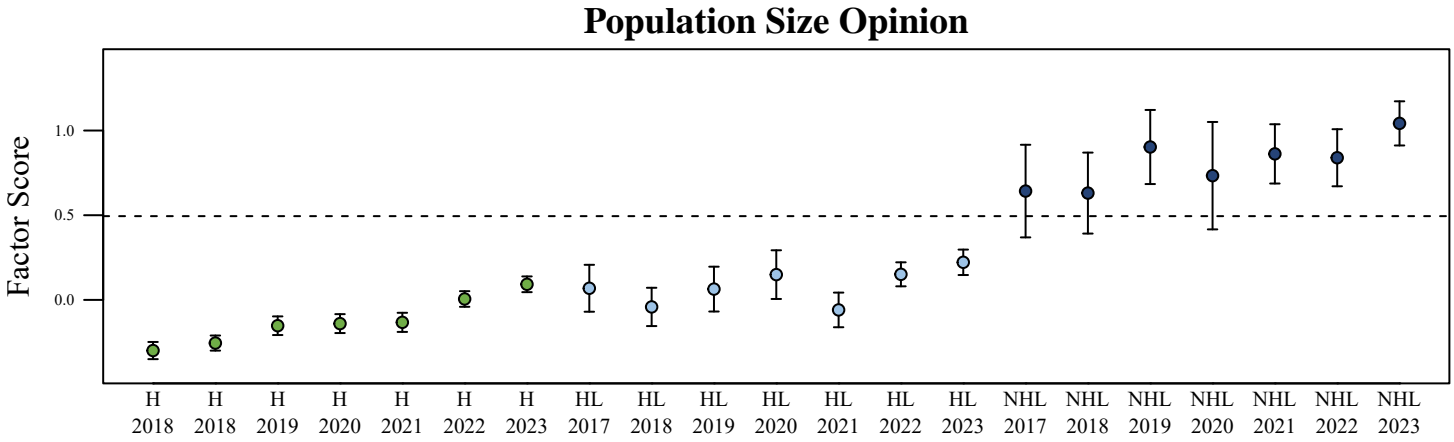


Figure 27. The opinion of nonhunters (NHL) and hunters in the county where they live (HL) and hunters in the county where they hunt (H) on deer population size. The score was aggregated using factor analysis of questions asked to all participants. The dashed line represents the score if all questions are answered neutrally.

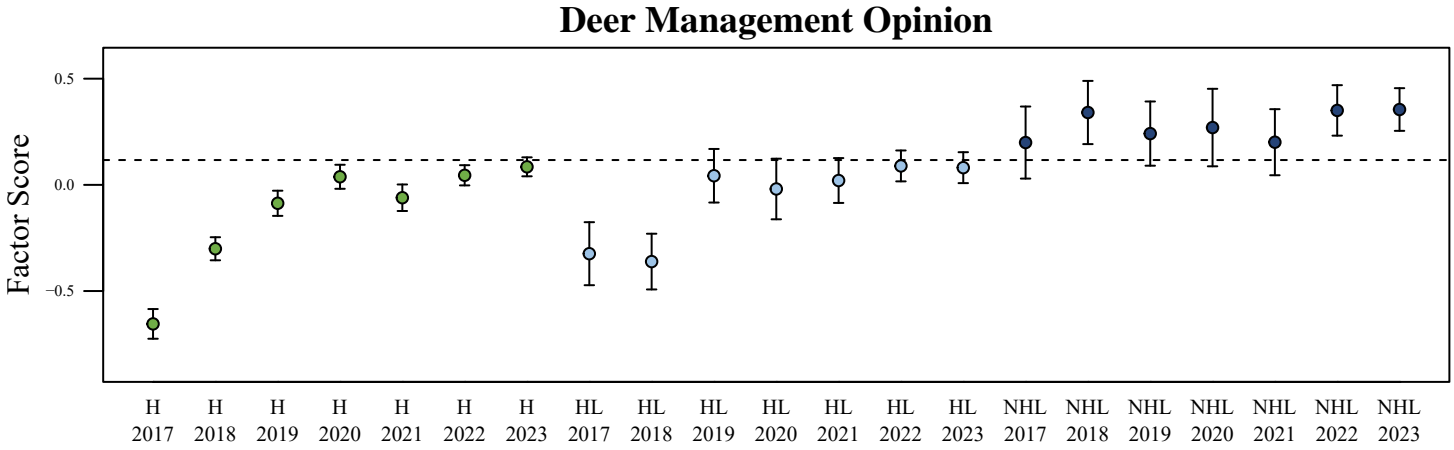


Figure 28. The opinion of nonhunters (NHL) and hunters in the county where they live (HL) and hunters in the county where they hunt (H) on deer management. The score was aggregated using factor analysis of questions asked to all participants. The dashed line represents the score if all questions are answered neutrally.

DMU 2: Northeast

5/23/2024

Deer Management Survey Results

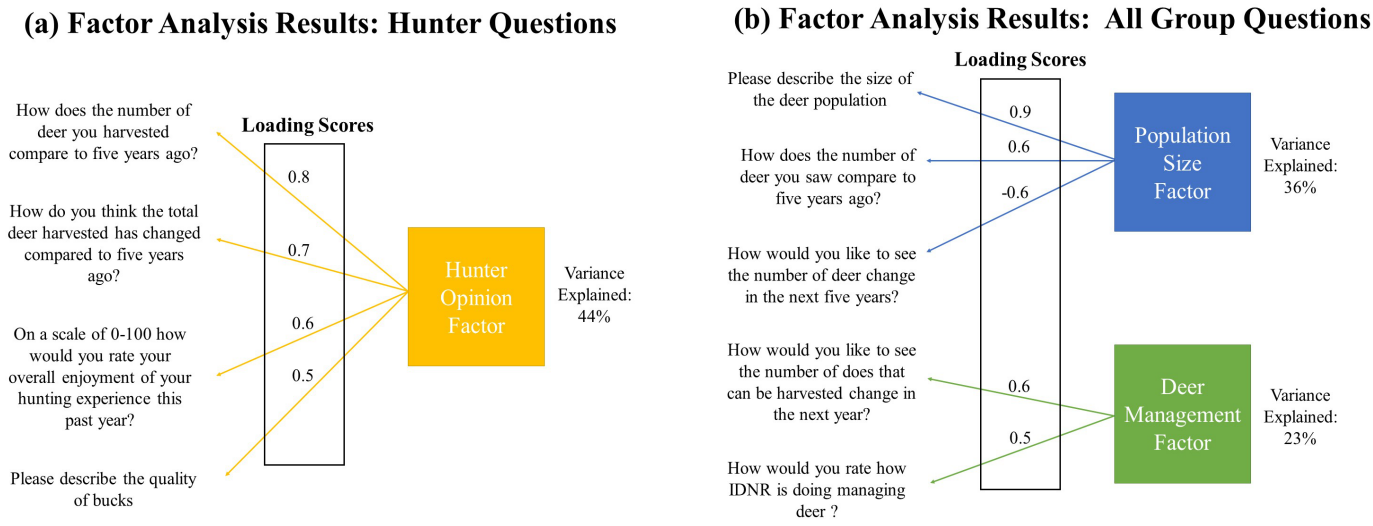


Figure 29. Results from two factor analyses used to develop the hunter opinion (a), population opinion (b), and management opinion (b) scores. Higher loading scores indicate a stronger correlation between the original question and the derived factor. These figures are included to help interpret Figure 26, Figure 27, and Figure 28.

DMU 3: West Central

5/23/2024

Total Square Miles: 4,025
Square Miles of Deer Habitat: 565
Percent Deer Habitat: 14

Table 1. Total harvest, buck harvest, and doe harvest (error < 1 percent). Damage permits are issued by DNR to landowners to control deer damage. Deer vehicle collisions (DVC) and miles traveled are reported by the Indiana Department of Transportation. Mean CBAQ is the average county bonus antlerless quota of all counties in the DMU. The trend in total harvest, buck harvest, doe harvest, and DVCs are in standard deviations (SD) and are equivalent to effect size. A change greater than 2 SD is considered both a large and statistically significant effect size.

Year	Total	Total Trend in SD	Buck Harvest	Buck Trend in SD	Buck Harvest per SQ MI Habitat	Doe Harvest	Doe Trend in SD	Doe Harvest per SQ MI Habitat	% Doe in Harvest	Damage Permit Deer Taken	DVC per Billion Miles Traveled	DVC Trend in SD	Mean CBAQ
2009	9,446		4,831		8.6	4,615		8.2	48.9		343.1		5.3
2010	10,294	3.0	5,379	3.3	9.5	4,915	2.0	8.7	47.7		308.4	-2.1	5.3
2011	10,218	1.4	5,338	1.3	9.4	4,880	1.3	8.6	47.8		301.7	-2.1	5.9
2012	10,781	2.4	5,001	-0.6	8.9	5,780	5.5	10.2	53.6		271.4	-2.5	5.9
2013	9,176	-1.6	4,456	-2.8	7.9	4,720	-0.5	8.4	51.4		309.3	-0.2	5.4
2014	8,698	-2.0	4,424	-1.5	7.8	4,274	-1.5	7.6	49.1		293.9	-0.5	4.3
2015	8,344	-1.7	4,380	-1.2	7.8	3,964	-1.7	7.0	47.5		274.4	-1.5	4.3
2016	8,057	-1.3	4,471	-0.6	7.9	3,586	-1.6	6.3	44.5	102	257.4	-2.0	4.2
2017	7,017	-1.9	3,705	-3.3	6.6	3,312	-1.4	5.9	47.2	61	276.3	-0.2	2.9
2018	7,191	-1.3	4,023	-0.8	7.1	3,168	-1.4	5.6	44.1	42	290.3	0.4	2.1
2019	8,123	0.4	4,695	1.5	8.3	3,428	-0.5	6.1	42.2	44	292.5	1.0	1.8
2020	9,358	2.7	5,226	2.5	9.2	4,132	2.1	7.3	44.2	39	290.8	0.9	1.8
2021	8,240	0.3	4,874	0.8	8.6	3,366	-0.4	6.0	40.8	48	298.6	1.1	1.8
2022	9,445	1.6	5,580	1.7	9.9	3,865	1.0	6.8	40.9	55	311.3	2.6	1.9
2023	9,266	0.8	5,346	0.8	9.5	3,920	0.8	6.9	42.3	20	318.8	2.5	1.9

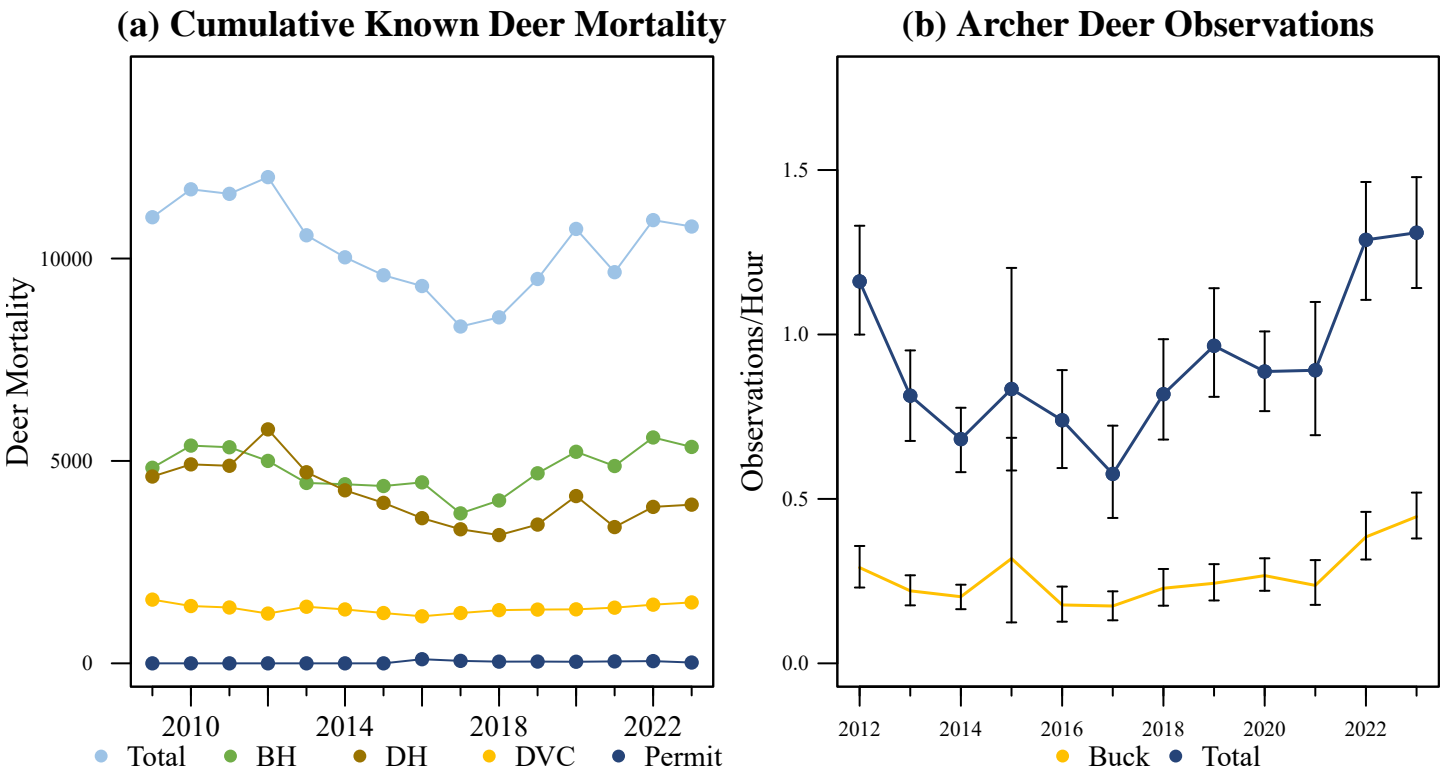


Figure 1. (a) The total known annual deer mortality based on buck harvests (BH), doe harvests (DH), deer vehicle collisions (DVC), and deer permit takes. (b) Total deer and buck observations per hour based on the Archer's Index.

DMU 3: West Central

5/23/2024

Total Square Miles: 4,025
Square Miles of Deer Habitat: 565
Percent Deer Habitat: 14

Table 2. Estimated number of antlered (A) and antlerless (AL) deer harvested per hunter. Estimated totals may not match exactly with total number of deer harvested. Reporting errors are examined and investigated as they are located; therefore, subsequent reports may contain corrected totals.

Year	Total Hunters	0 A	1 A	2 A	3 A	0 AL	1 AL	2 AL	3 AL	4 AL	5 AL	6 AL	7 AL	8 AL	9 AL	10 AL
2016	6,209	2,547	3,655	7	0	2,797	2,633	636	102	30	9	2	0	0	0	0
2017	5,364	2,439	2,916	8	0	2,213	2,388	629	102	31	1	0	0	0	0	0
2018	5,646	2,302	3,329	15	0	2,519	2,493	570	59	3	2	0	0	0	0	0
2019	6,215	2,246	3,955	14	0	2,873	2,625	651	54	10	1	1	0	0	0	0
2020	6,993	2,682	4,290	21	0	3,038	3,006	853	77	16	2	0	0	0	1	0
2021	6,418	2,229	4,183	6	0	3,159	2,543	657	52	5	1	0	1	0	0	0
2022	7,116	2,282	4,820	13	1	3,475	2,786	774	66	12	2	1	0	0	0	0
2023	7,064	2,387	4,658	19	0	3,422	2,802	761	70	9	0	0	0	0	0	0

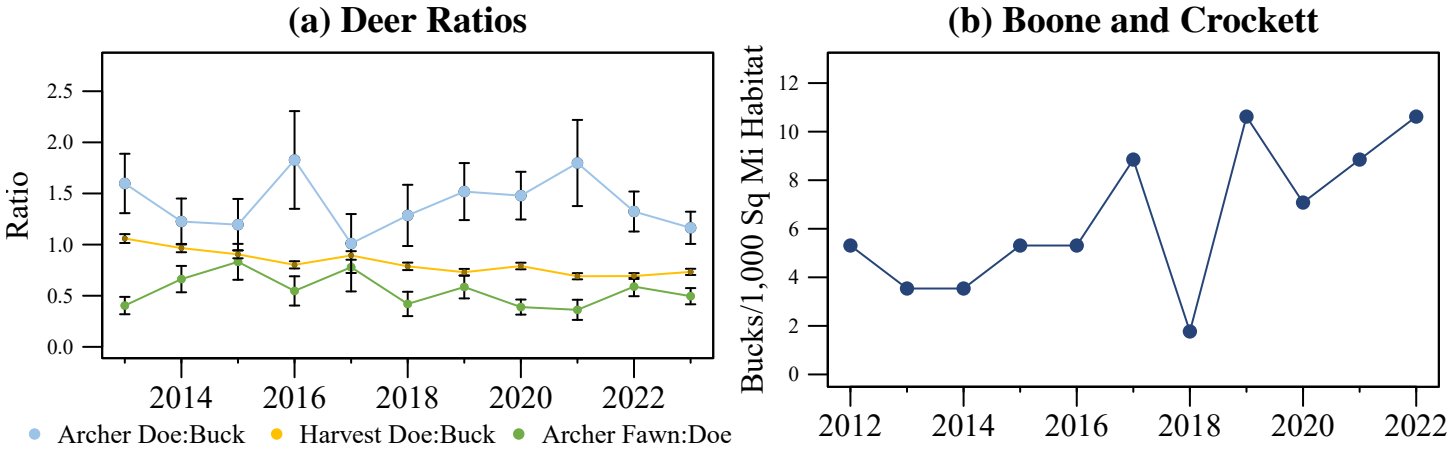


Figure 2. (a) Annual doe:buck ratios and fawn:doe ratios based on the Archer's Index and harvest records. (b) The number of Boone and Crockett bucks (minimum 160 score) per 1,000 square miles of deer habitat.

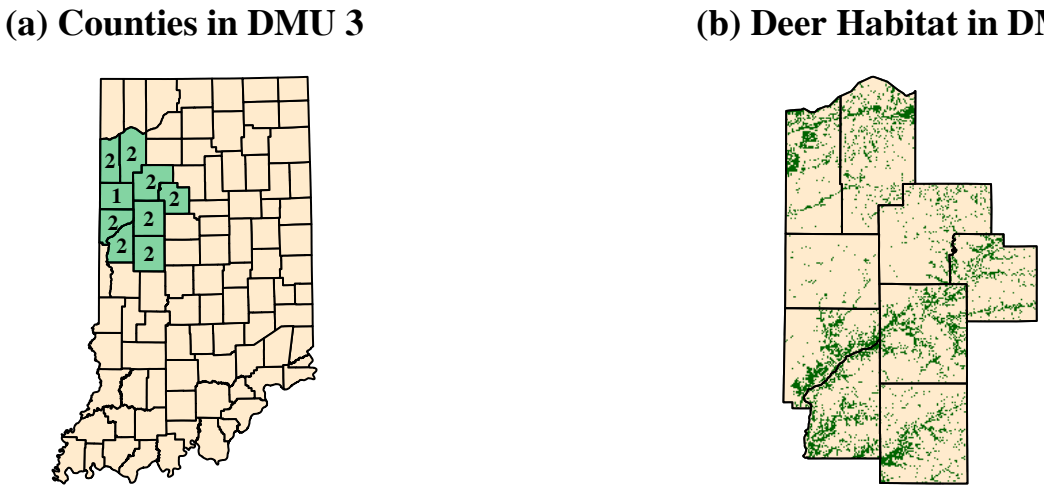


Figure 3. (a) Counties included in DMU 3 for summarizing harvest and deer management survey statistics. Labels are the 2023 county bonus antlerless quotas. (b) Green represents the land use types classified as deer habitat in DMU 3.

DMU 3: West Central

5/23/2024

Deer Management Survey Results

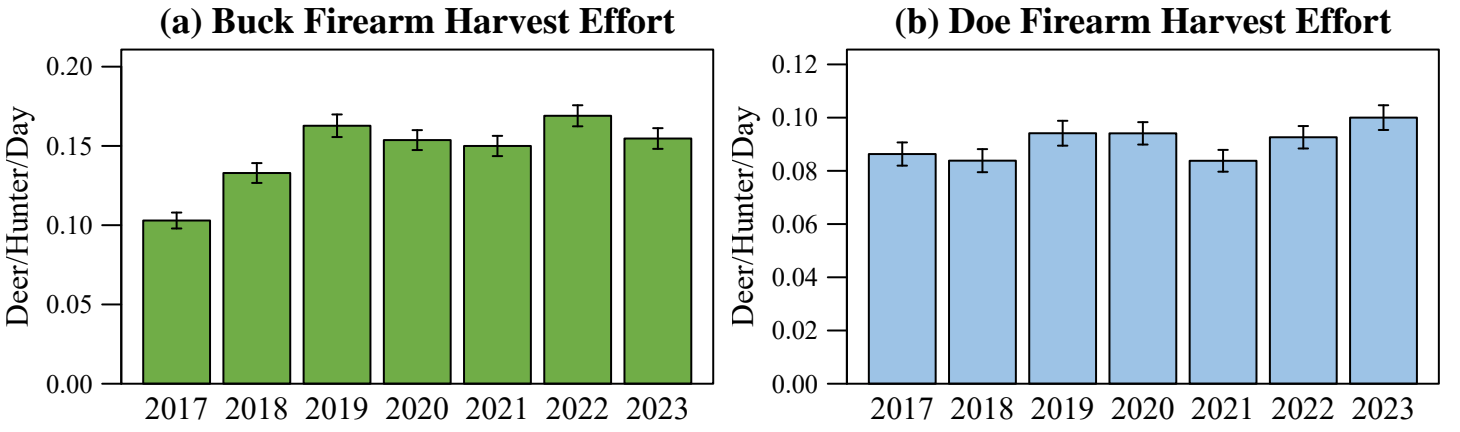


Figure 4. Firearm harvest effort is the number of bucks (a) and does (b) killed by firearms per hunter divided by the mean number of days hunted per hunter during the firearm season based on data reported in the deer management survey. Larger values (i.e taller bars) indicate less effort required to harvest a deer.

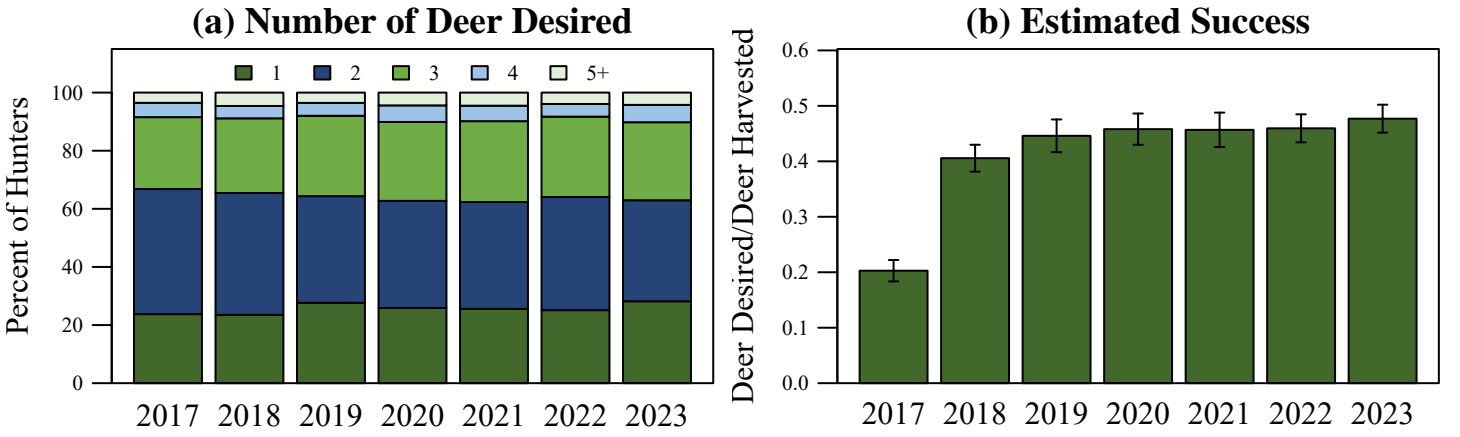


Figure 5. (a) The annual percent of hunters wishing to harvest each number of deer as reported in the deer management survey. (b) Success rate is estimated from the deer management survey as the Number of Harvested Deer/Number of Deer Desired (reported only; does not account for attempts that were not made). Larger values (i.e. taller bars) indicate greater success.

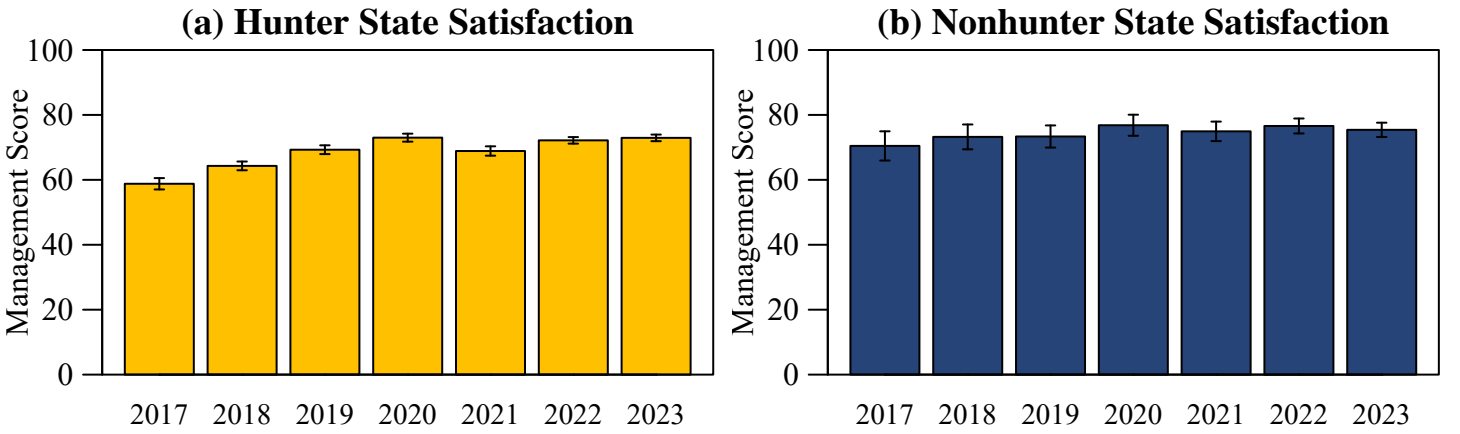


Figure 6. Hunters (a) and nonhunters (b) were asked to score the DNR's statewide deer management on a scale of 0 (poor) to 100 (excellent).

DMU 3: West Central

5/23/2024

Deer Management Survey Results

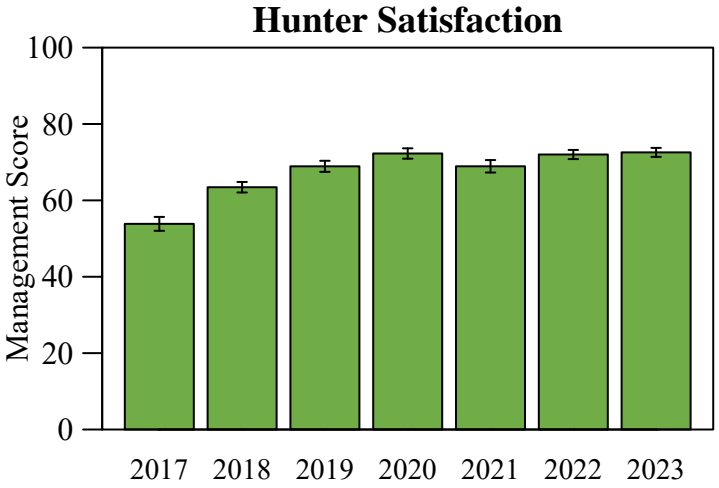


Figure 7. Hunters were asked to score the DNR's county deer management on a scale of 0 (poor) to 100 (excellent) for the county in DMU 3 where they hunt.

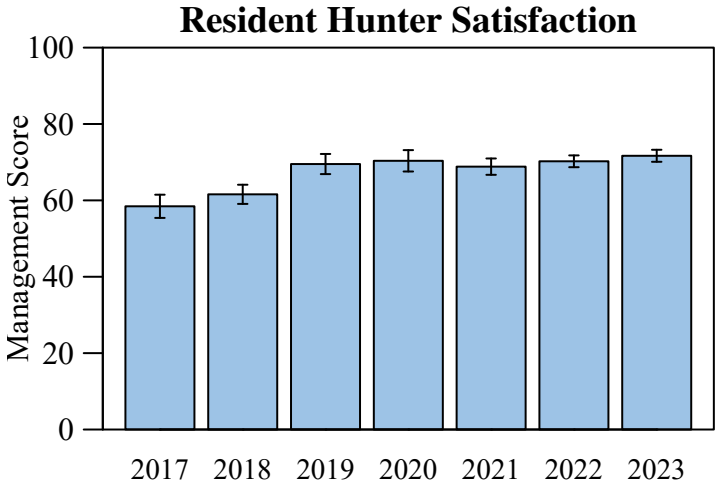


Figure 8. Hunters were asked to score the DNR's county deer management on a scale of 0 (poor) to 100 (excellent) for the county in DMU 3 where they live.

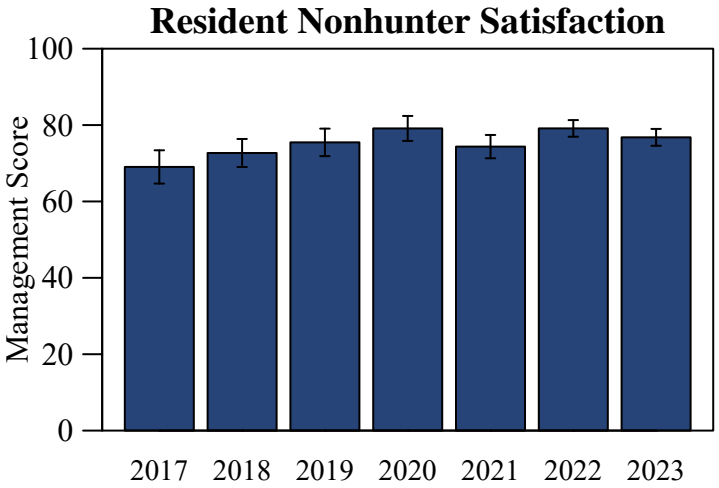


Figure 9. Nonhunters were asked to score the DNR's county deer management on a scale of 0 (poor) to 100 (excellent) for the county in DMU 3 where they live.

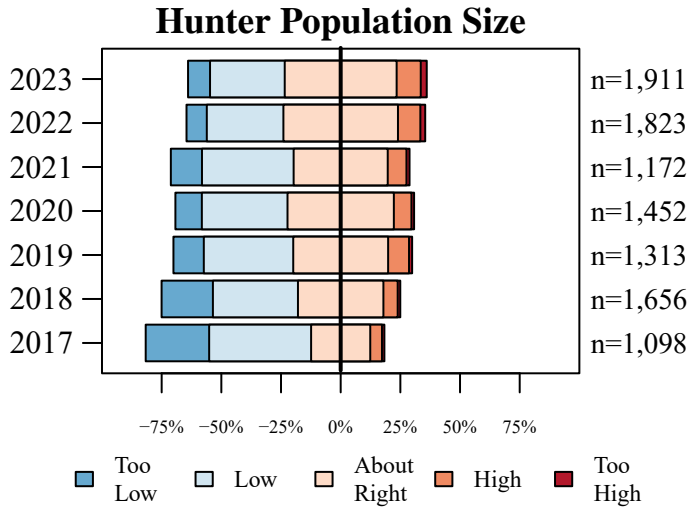


Figure 10. The current size of the deer population described by hunters in the county where they hunt in DMU 3.

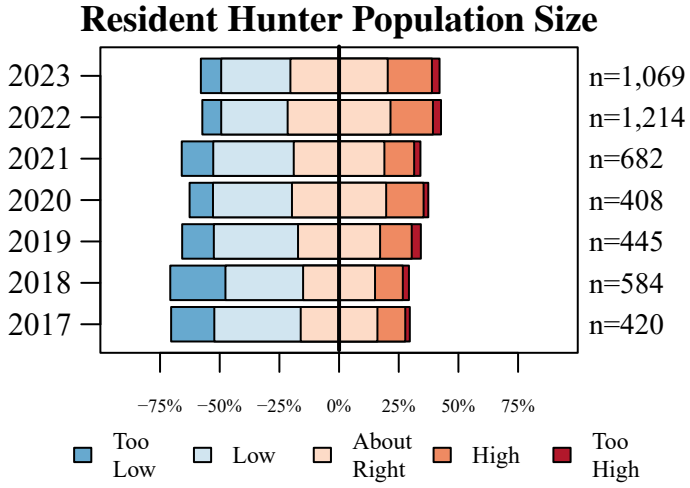


Figure 11. The current size of the deer population described by hunters in the county where they live in DMU 3.

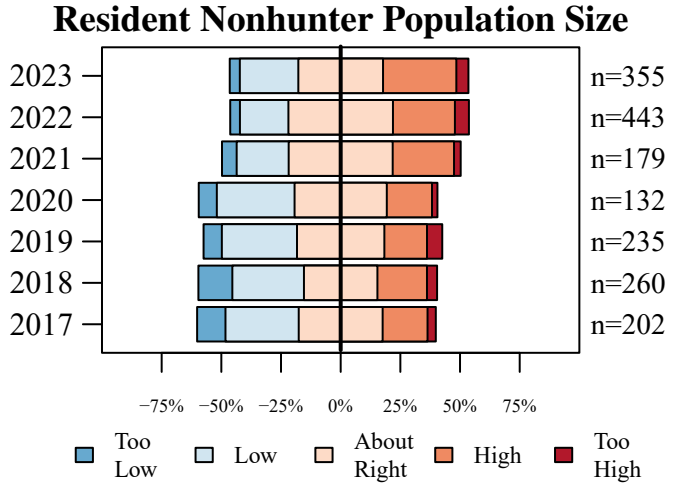


Figure 12. The current size of the deer population described by nonhunters in the county where they live in DMU 3.

DMU 3: West Central

5/23/2024

Deer Management Survey Results

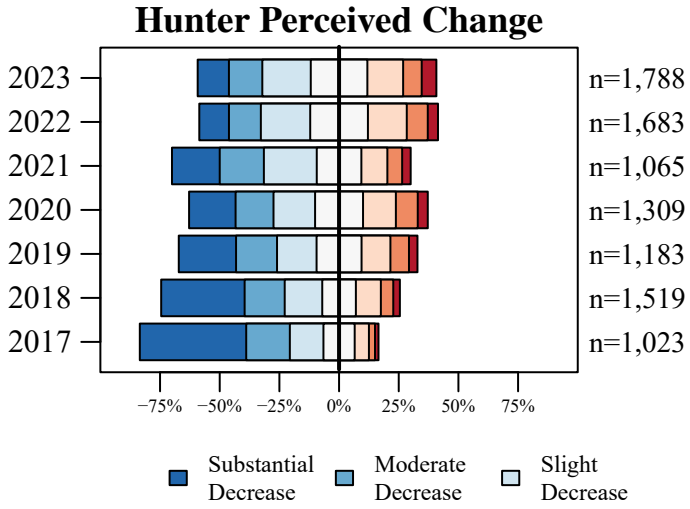


Figure 13. The number of deer seen compared to five years ago described by hunters in the county where they hunt in DMU 3.

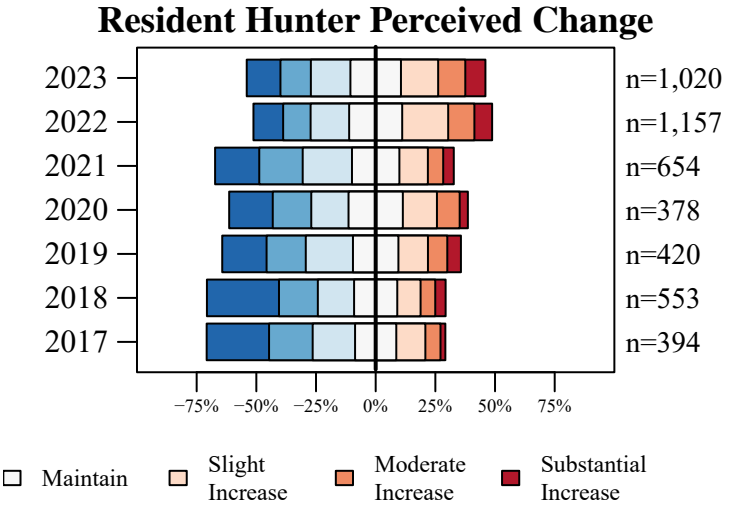
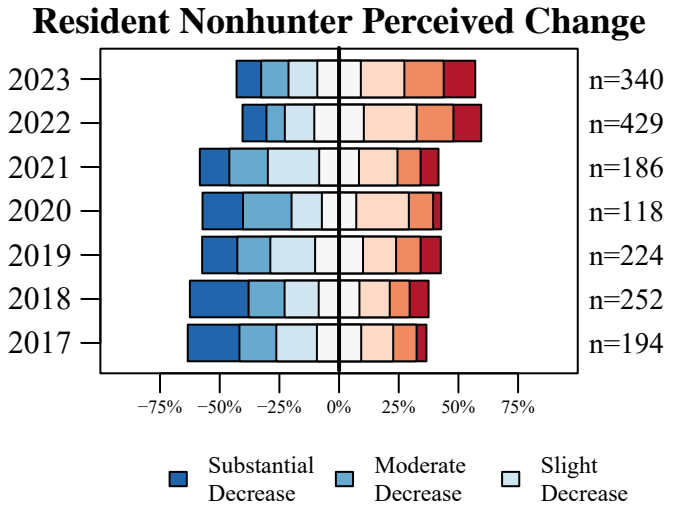


Figure 14. The number of deer seen compared to five years ago described by hunters in the county where they live in DMU 3.



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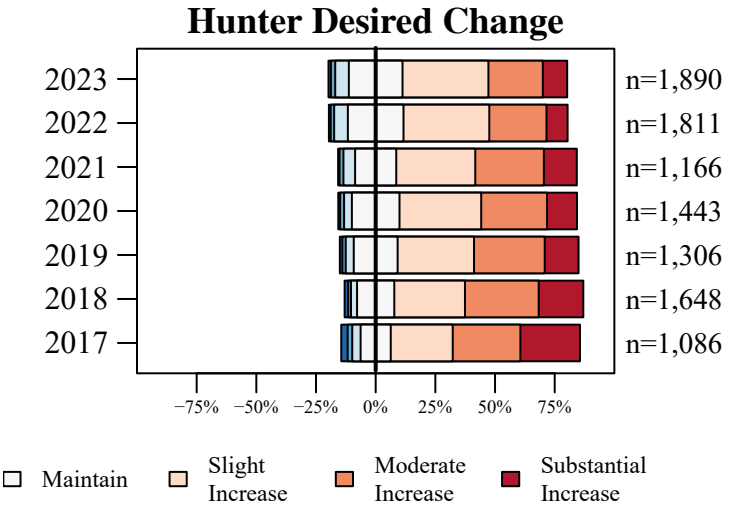
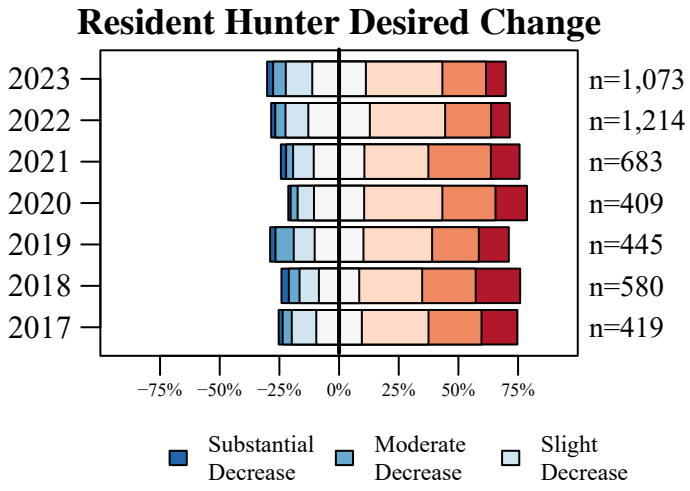


Figure 16. The desired change in the size of the deer population described by hunters in the county where they hunt in DMU 3.



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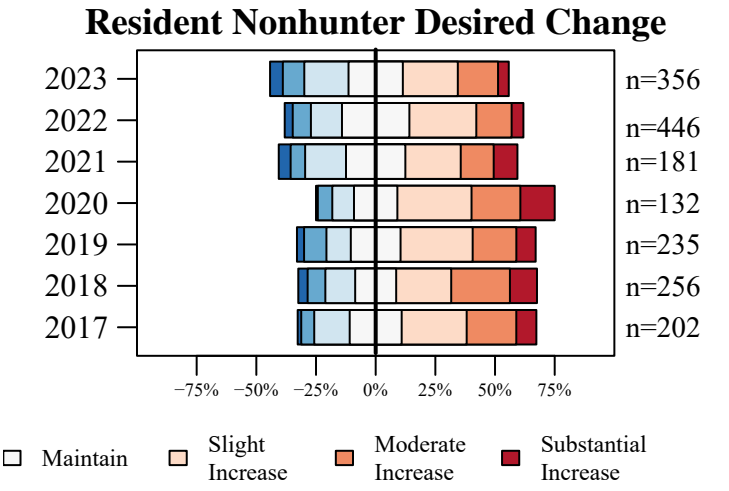

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DMU 3: West Central

5/23/2024

Deer Management Survey Results

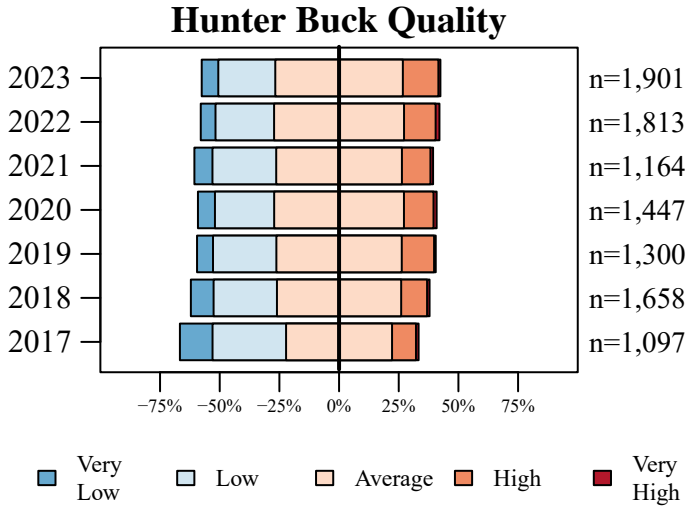

Figure 19. Hunters describe the quality of bucks in the county where they hunt in DMU 3.

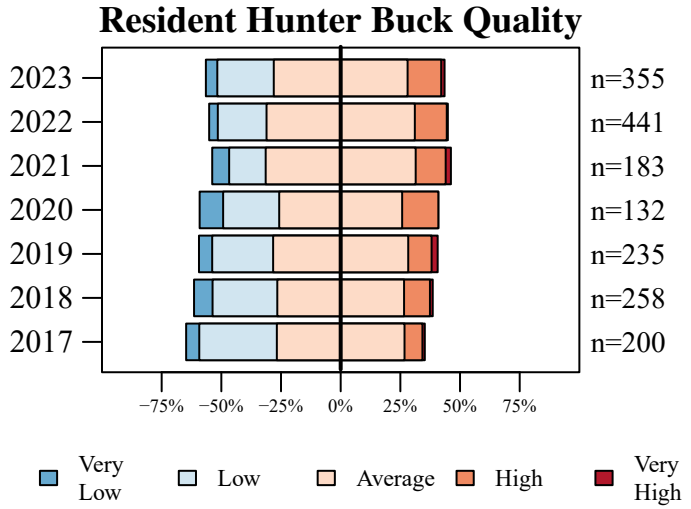

Figure 20. Hunters describe the quality of bucks in the county where they live in DMU 3.

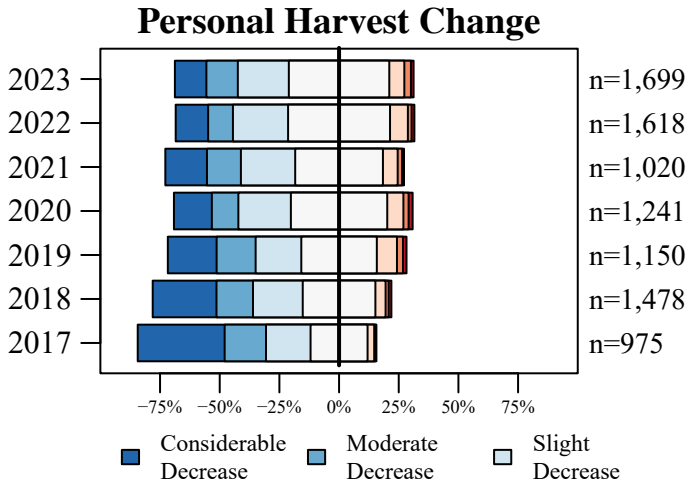

Figure 21. Opinion of hunters on how their personal number of harvested deer has changed over the last five years in a county in DMU 3.

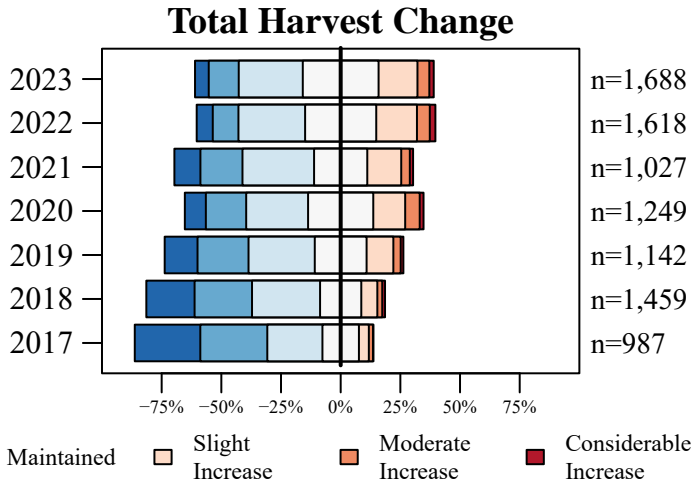

Figure 22. Opinion of hunters on how the total number of harvested deer has changed over the last five years in a county in DMU 3.

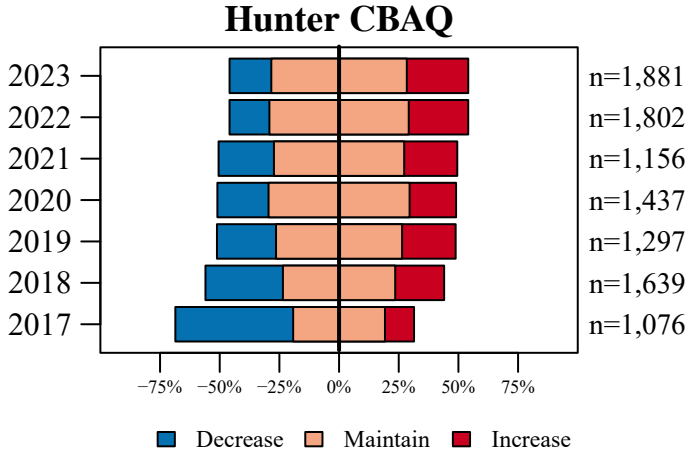

Figure 23. Opinion on how the County Bonus Antlerless Quota should change from hunters in the county where they hunt in DMU 3.

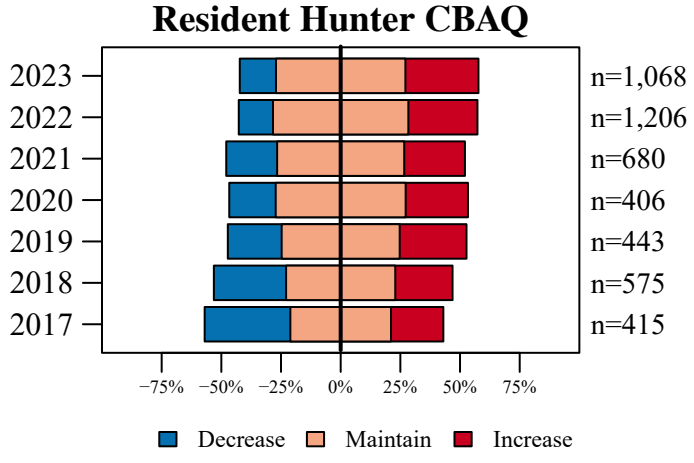

Figure 24. Opinion on how the County Bonus Antlerless Quota should change from hunters in the county where they live in DMU 3.

DMU 3: West Central

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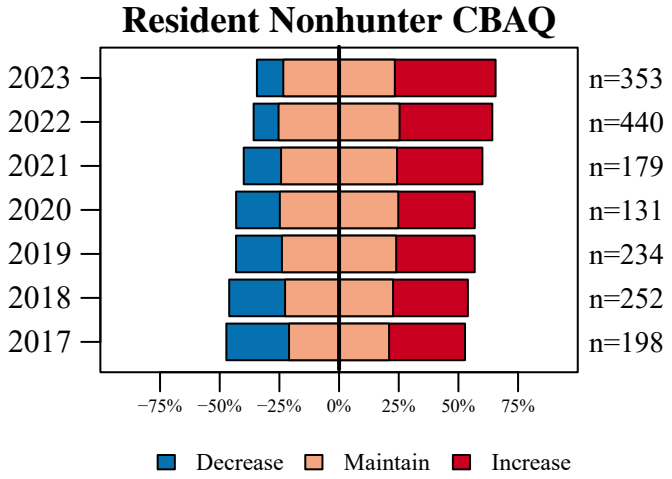

Figure 25. Opinion on how the County Bonus Antlerless Quota should change from nonhunters in the county where they live in DMU 3.

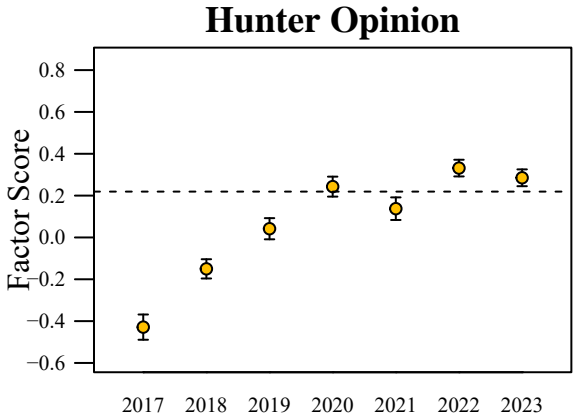

Figure 26. Hunter opinon scores over five years of the deer management survey. The score was aggregated using factor analysis of questions asked only to hunters. The dashed line represents the score if all questions are answered neutrally.

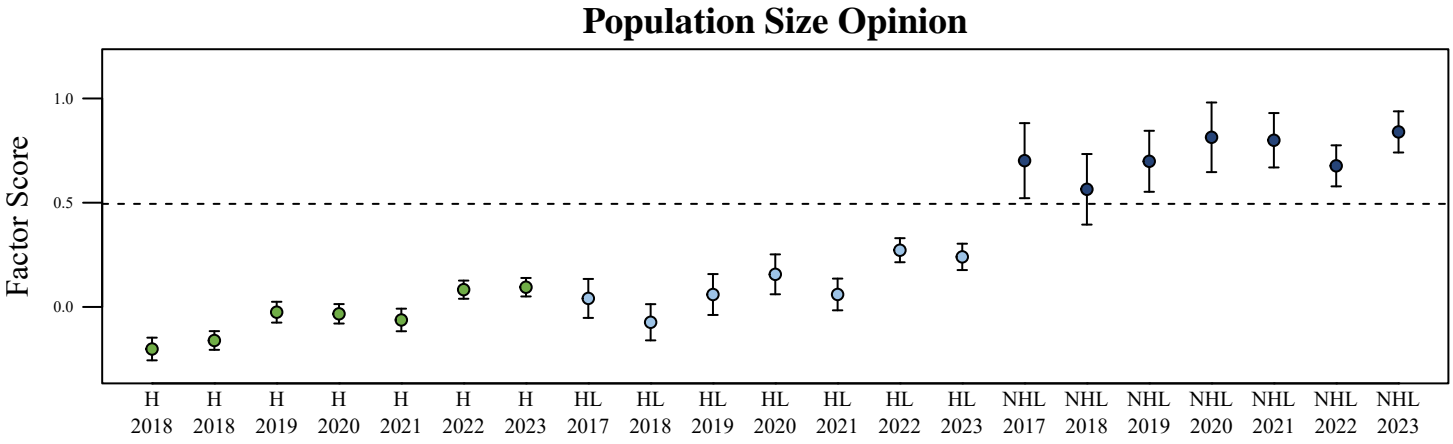

Figure 27. The opinion of nonhunters (NHL) and hunters in the county where they live (HL) and hunters in the county where they hunt (H) on deer population size. The score was aggregated using factor analysis of questions asked to all participants. The dashed line represents the score if all questions are answered neutrally.

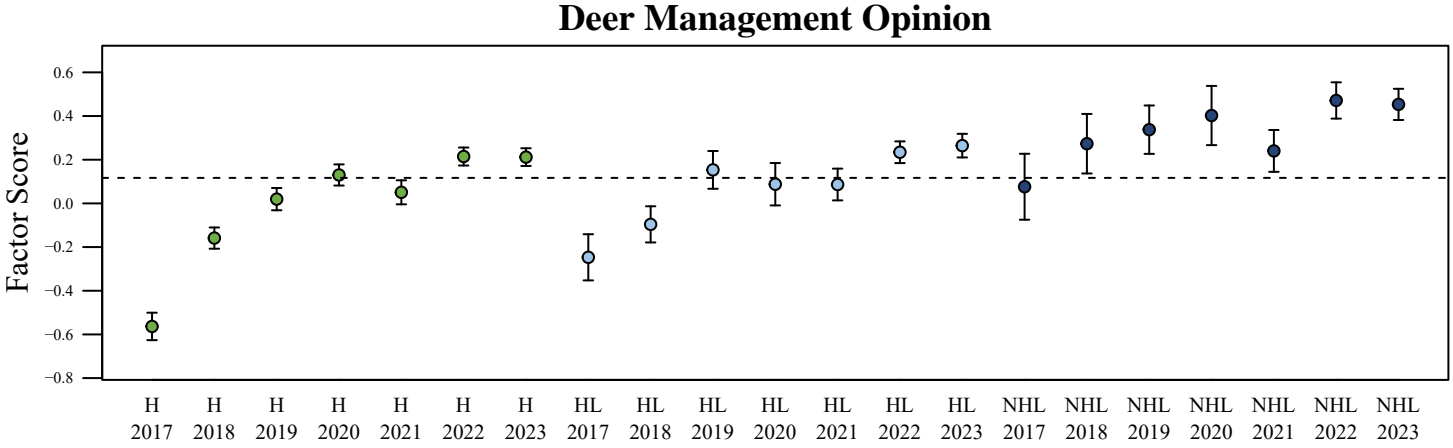

Figure 28. The opinion of nonhunters (NHL) and hunters in the county where they live (HL) and hunters in the county where they hunt (H) on deer management. The score was aggregated using factor analysis of questions asked to all participants. The dashed line represents the score if all questions are answered neutrally.

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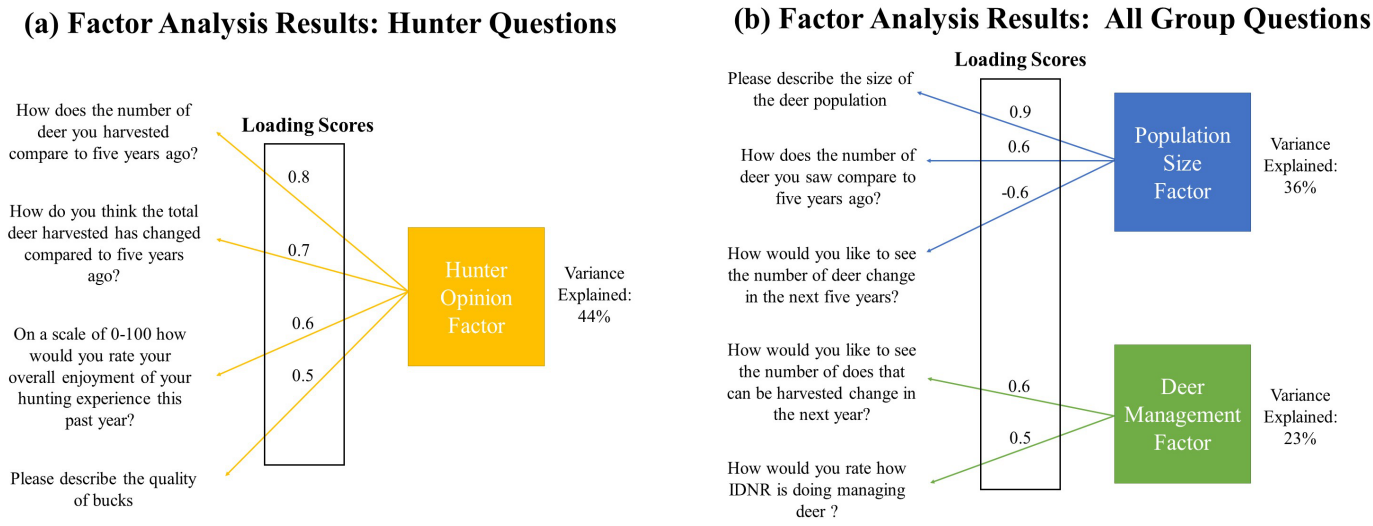

Figure 29. Results from two factor analyses used to develop the hunter opinion (a), population opinion (b), and management opinion (b) scores. Higher loading scores indicate a stronger correlation between the original question and the derived factor. These figures are included to help interpret Figure 26, Figure 27, and Figure 28.

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Total Square Miles: 9,965
Square Miles of Deer Habitat: 1,589
Percent Deer Habitat: 16

Table 1. Total harvest, buck harvest, and doe harvest (error < 1 percent). Damage permits are issued by DNR to landowners to control deer damage. Deer vehicle collisions (DVC) and miles traveled are reported by the Indiana Department of Transportation. Mean CBAQ is the average county bonus antlerless quota of all counties in the DMU. The trend in total harvest, buck harvest, doe harvest, and DVCs are in standard deviations (SD) and are equivalent to effect size. A change greater than 2 SD is considered both a large and statistically significant effect size.

Year	Total	Total Trend in SD	Buck Harvest	Buck Trend in SD	Buck Harvest per SQ MI Habitat	Doe Harvest	Doe Trend in SD	Doe Harvest per SQ MI Habitat	% Doe in Harvest	Damage Permit Deer Taken	DVC per Billion Miles Traveled	DVC Trend in SD	Mean CBAQ
2009	18,223		9,567		6.0	8,656		5.4	47.5		174.5		3.2
2010	17,914	0.7	9,538	0.6	6.0	8,376	0.6	5.3	46.8		164.3	-1.3	3.5
2011	18,487	1.2	9,673	0.8	6.1	8,814	1.7	5.5	47.7		162.1	-1.9	3.9
2012	18,258	0.5	8,873	-2.0	5.6	9,385	3.6	5.9	51.4		150.8	-2.5	3.8
2013	17,243	-1.5	8,733	-1.6	5.5	8,510	-0.4	5.4	49.4		146.7	-1.8	3.5
2014	18,029	0.0	9,321	0.1	5.9	8,708	-0.1	5.5	48.3		154.2	-0.5	3.4
2015	18,299	0.7	9,755	1.3	6.1	8,544	-0.6	5.4	46.7		155.7	0.0	3.3
2016	17,875	-0.4	9,838	1.2	6.2	8,037	-2.1	5.1	45.0	44	136.5	-3.0	3.3
2017	16,481	-3.4	8,651	-1.3	5.4	7,830	-1.7	4.9	47.5	43	149.3	0.1	3.0
2018	16,985	-0.8	9,476	0.4	6.0	7,509	-2.2	4.7	44.2	43	152.3	0.5	1.9
2019	18,638	1.4	10,644	2.6	6.7	7,994	-0.3	5.0	42.9	69	155.3	0.7	1.6
2020	20,441	3.1	11,337	2.3	7.1	9,104	3.0	5.7	44.5	51	145.3	-0.6	1.6
2021	18,006	-0.1	10,393	0.4	6.5	7,613	-0.8	4.8	42.3	60	151.0	0.4	1.6
2022	20,125	1.3	11,789	1.6	7.4	8,336	0.5	5.2	41.4	30	159.5	2.4	1.7
2023	20,390	1.1	11,898	1.3	7.5	8,492	0.6	5.3	41.6	54	173.4	4.0	1.7

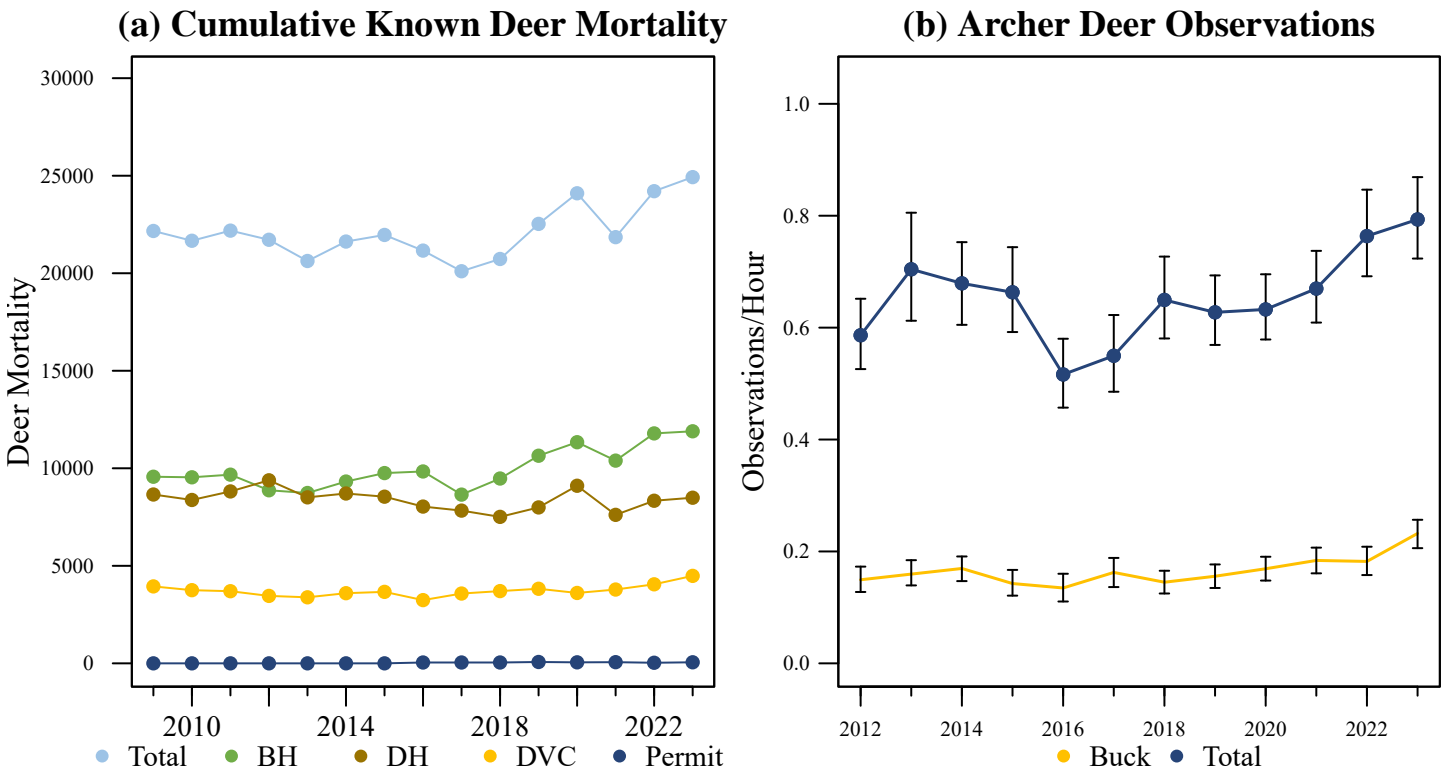

Figure 1. (a) The total known annual deer mortality based on buck harvests (BH), doe harvests (DH), deer vehicle collisions (DVC), and deer permit takes. (b) Total deer and buck observations per hour based on the Archer's Index.

DMU 4: East Central

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Total Square Miles: 9,965
Square Miles of Deer Habitat: 1,589
Percent Deer Habitat: 16

Table 2. Estimated number of antlered (A) and antlerless (AL) deer harvested per hunter. Estimated totals may not match exactly with total number of deer harvested. Reporting errors are examined and investigated as they are located; therefore, subsequent reports may contain corrected totals.

Year	Total Hunters	0 A	1 A	2 A	3 A	0 AL	1 AL	2 AL	3 AL	4 AL	5 AL	6 AL	7 AL	8 AL	9 AL	10 AL
2016	14,211	6,526	7,628	55	2	5,968	6,705	1,277	203	42	7	4	4	1	0	0
2017	12,981	6,363	6,573	43	1	4,976	6,470	1,311	182	33	9	0	0	0	0	0
2018	13,655	6,203	7,404	48	0	5,709	6,596	1,197	126	21	4	1	1	0	0	0
2019	14,887	6,256	8,578	51	2	6,468	7,035	1,274	90	12	3	3	0	1	0	1
2020	16,167	7,044	9,064	59	0	6,725	7,811	1,473	135	19	3	1	0	0	0	0
2021	14,507	5,932	8,517	57	1	6,585	6,601	1,213	95	9	2	1	0	1	0	0
2022	15,909	6,219	9,613	77	0	7,173	7,300	1,286	128	12	8	1	0	1	0	0
2023	16,281	6,203	10,002	74	1	7,606	7,279	1,267	105	17	5	2	0	0	0	0

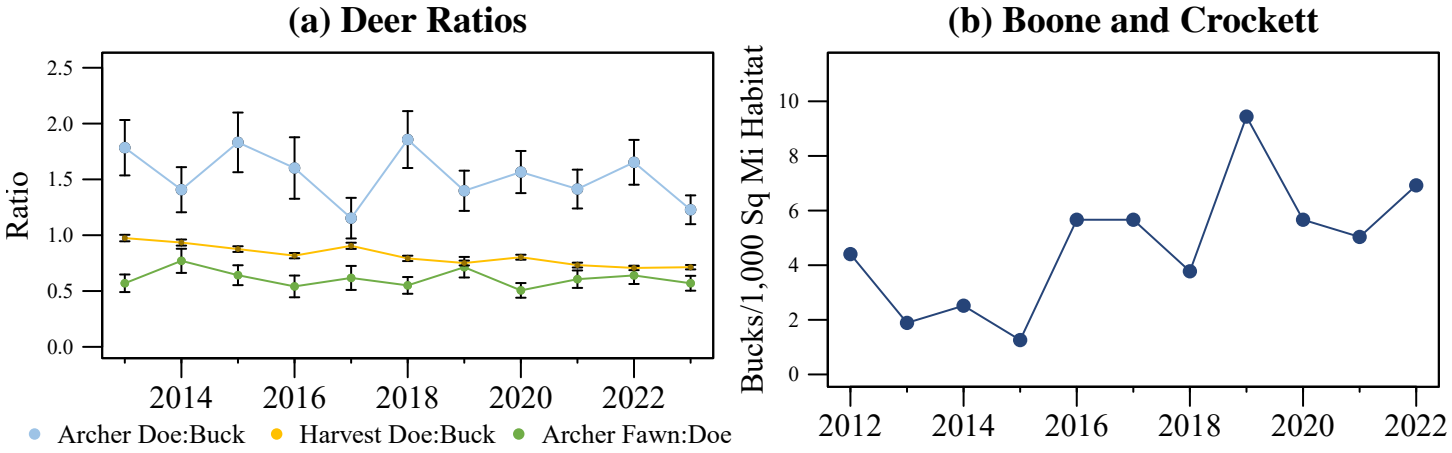

Figure 2. (a) Annual doe:buck ratios and fawn:doe ratios based on the Archer's Index and harvest records. (b) The number of Boone and Crockett bucks (minimum 160 score) per 1,000 square miles of deer habitat.

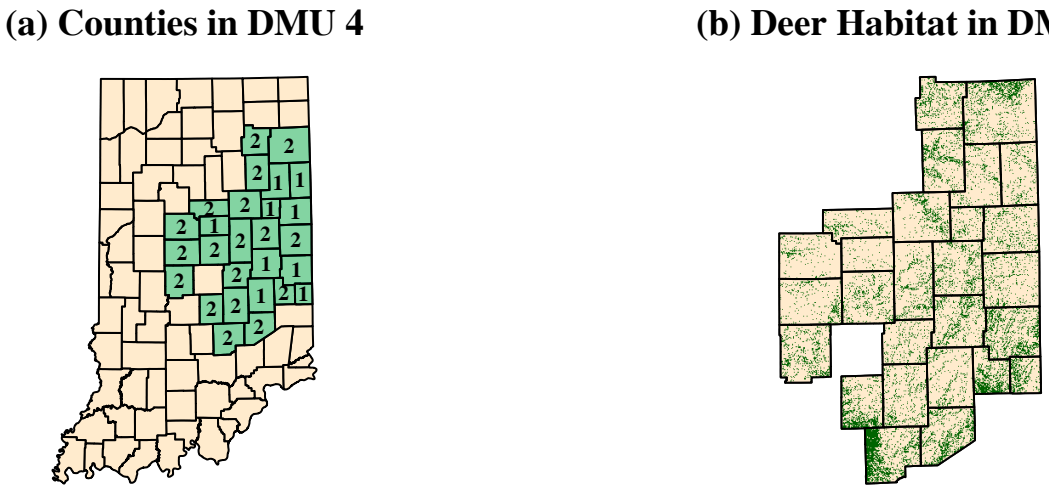

Figure 3. (a) Counties included in DMU 4 for summarizing harvest and deer management survey statistics. Labels are the 2023 county bonus antlerless quotas. (b) Green represents the land use types classified as deer habitat in DMU 4.

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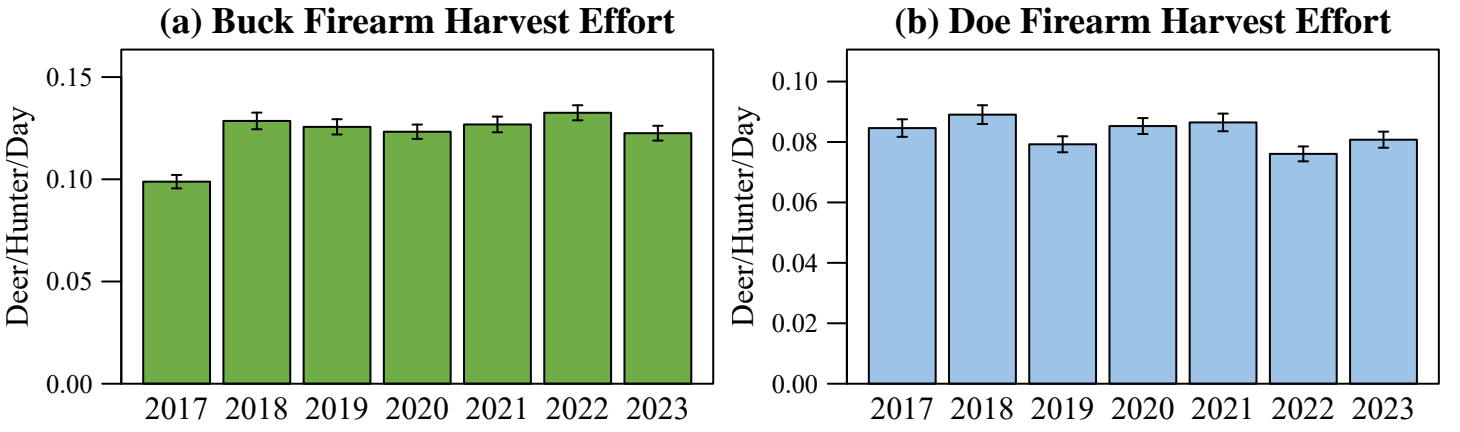

Figure 4. Firearm harvest effort is the number of bucks (a) and does (b) killed by firearms per hunter divided by the mean number of days hunted per hunter during the firearm season based on data reported in the deer management survey. Larger values (i.e taller bars) indicate less effort required to harvest a deer.

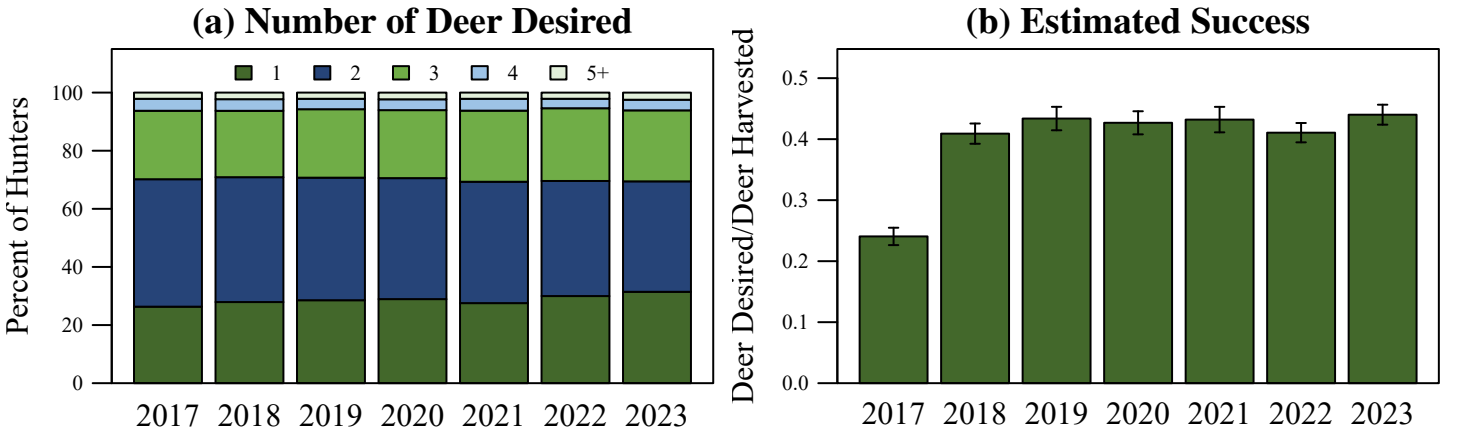

Figure 5. (a) The annual percent of hunters wishing to harvest each number of deer as reported in the deer management survey. (b) Success rate is estimated from the deer management survey as the Number of Harvested Deer/Number of Deer Desired (reported only; does not account for attempts that were not made). Larger values (i.e. taller bars) indicate greater success.

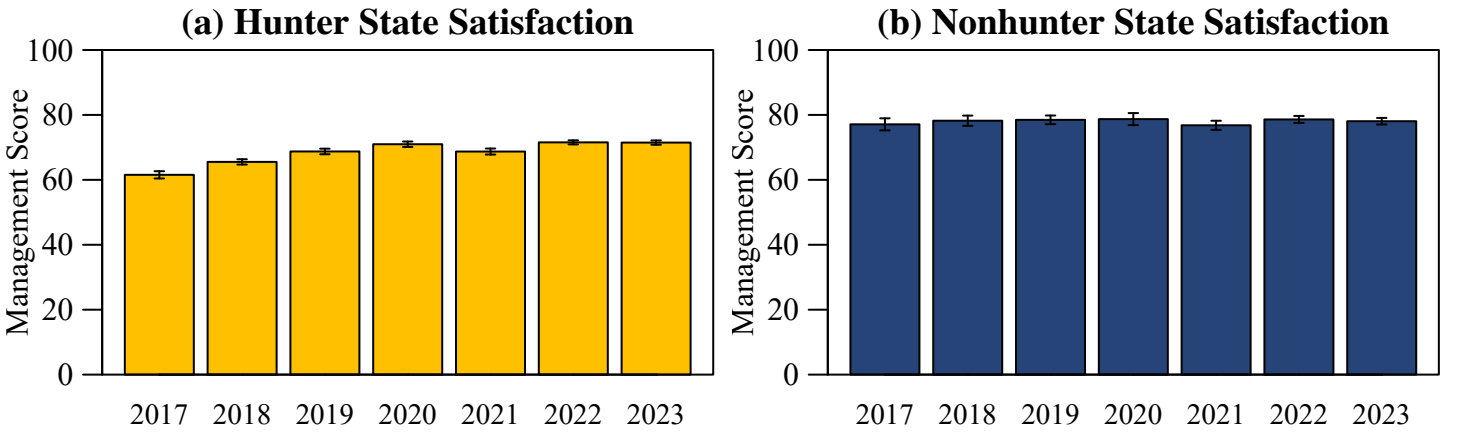

Figure 6. Hunters (a) and nonhunters (b) were asked to score the DNR's statewide deer management on a scale of 0 (poor) to 100 (excellent).

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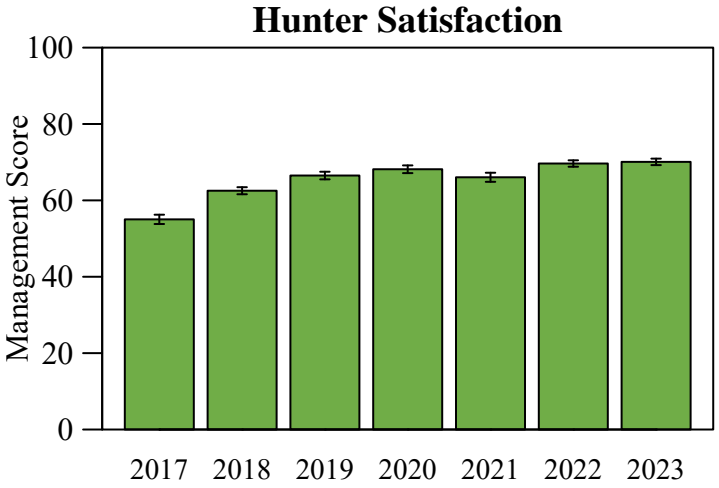

Figure 7. Hunters were asked to score the DNR's county deer management on a scale of 0 (poor) to 100 (excellent) for the county in DMU 4 where they hunt.

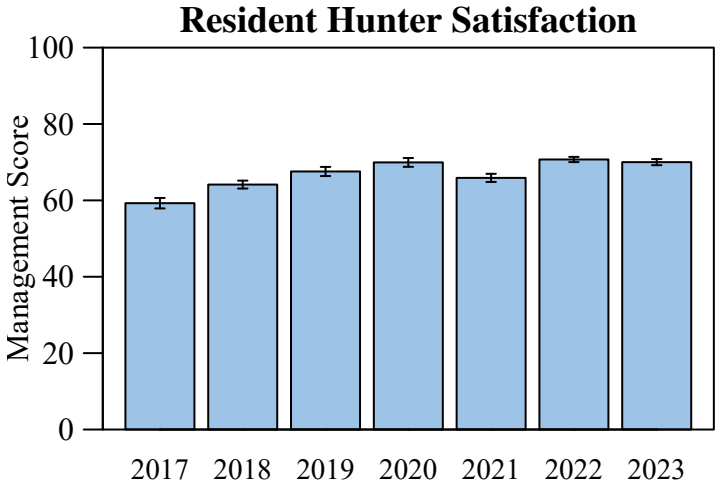

Figure 8. Hunters were asked to score the DNR's county deer management on a scale of 0 (poor) to 100 (excellent) for the county in DMU 4 where they live.

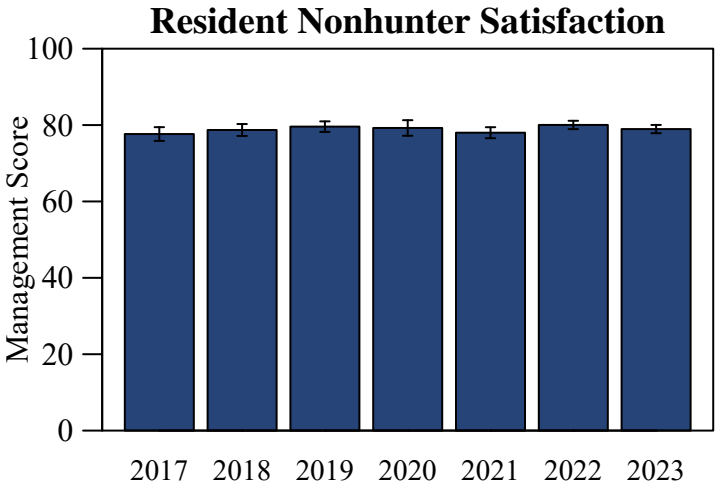

Figure 9. Nonhunters were asked to score the DNR's county deer management on a scale of 0 (poor) to 100 (excellent) for the county in DMU 4 where they live.

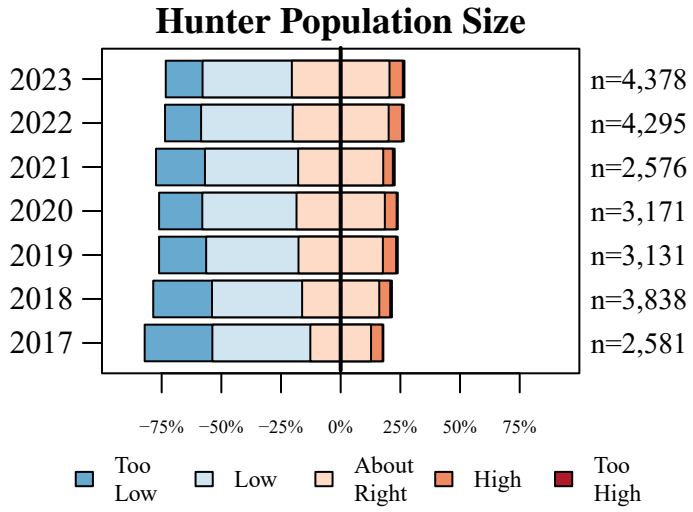

Figure 10. The current size of the deer population described by hunters in the county where they hunt in DMU 4.

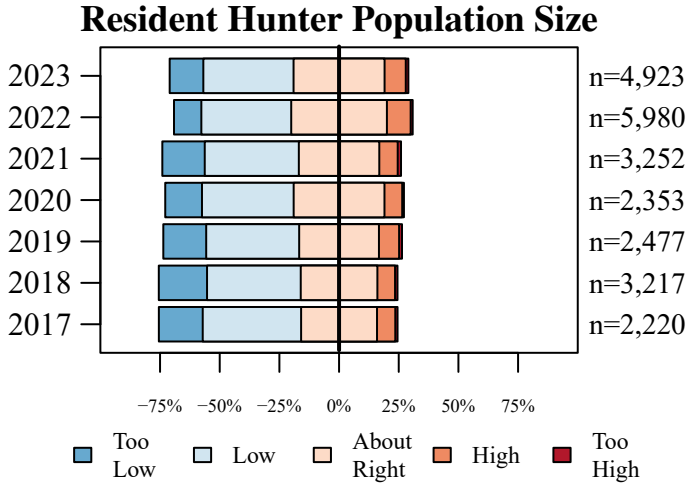

Figure 11. The current size of the deer population described by hunters in the county where they live in DMU 4.

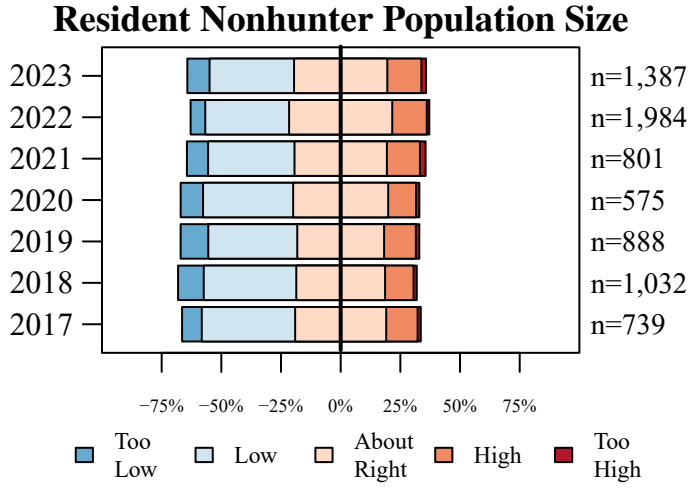

Figure 12. The current size of the deer population described by nonhunters in the county where they live in DMU 4.

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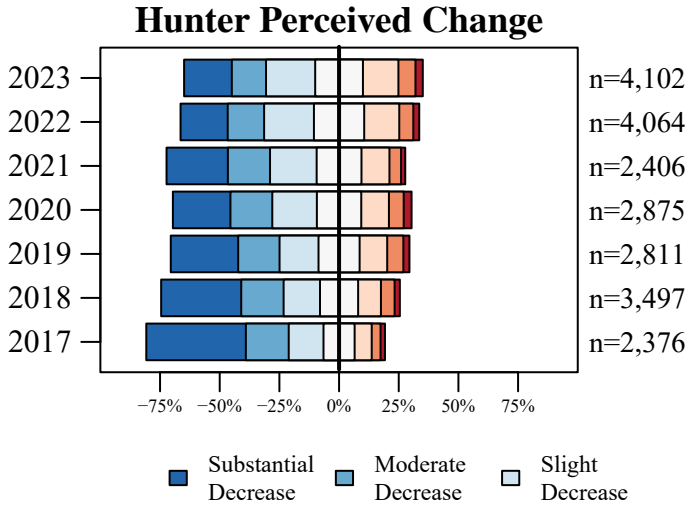


Figure 13. The number of deer seen compared to five years ago described by hunters in the county where they hunt in DMU 4.

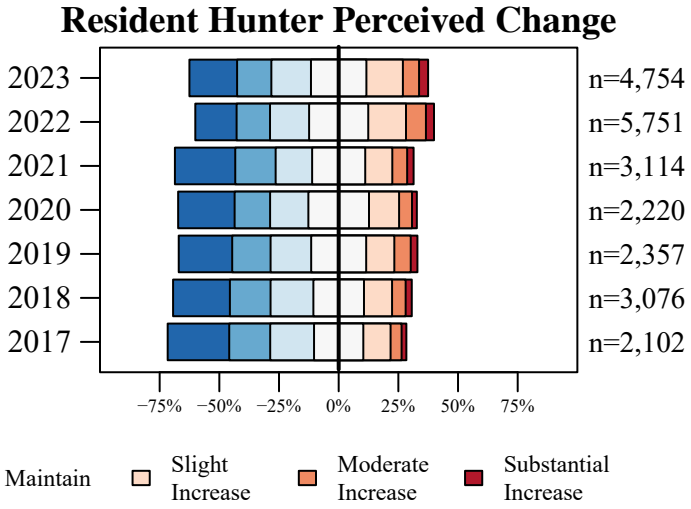


Figure 14. The number of deer seen compared to five years ago described by hunters in the county where they live in DMU 4.

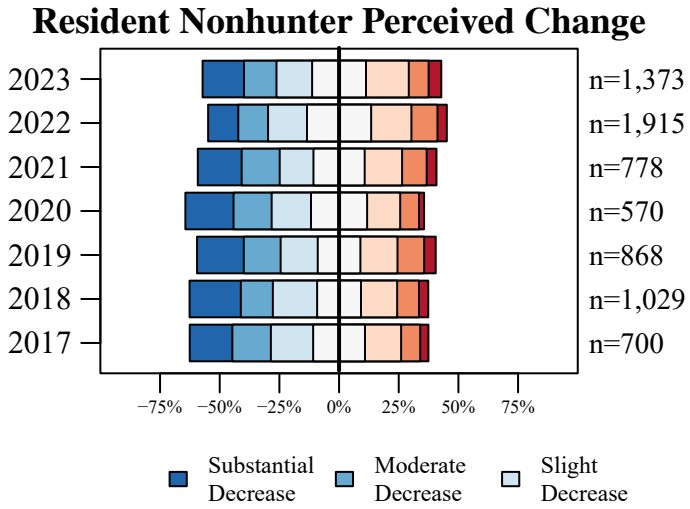


Figure 15. The number of deer seen compared to five years ago described by nonhunters in the county where they live in DMU 4.

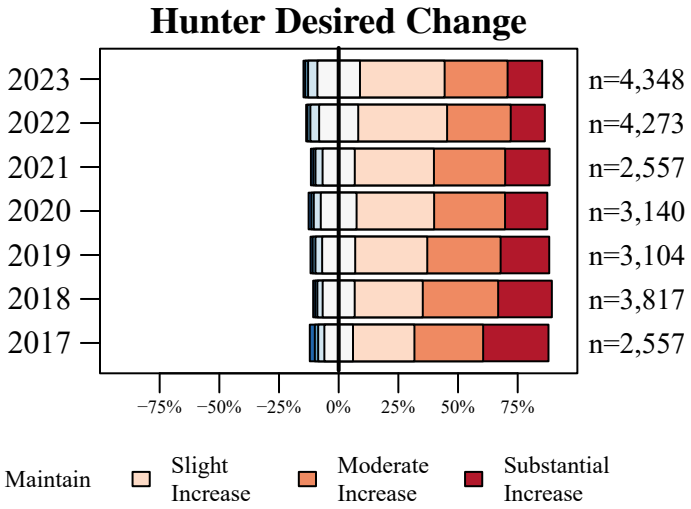
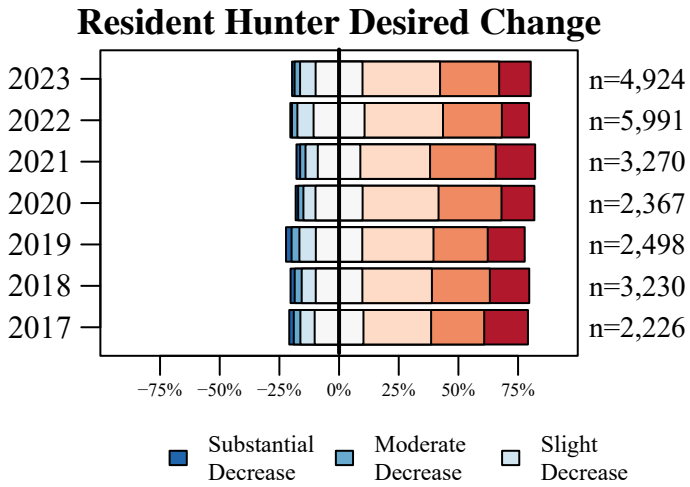


Figure 16. The desired change in the size of the deer population described by hunters in the county where they hunt in DMU 4.



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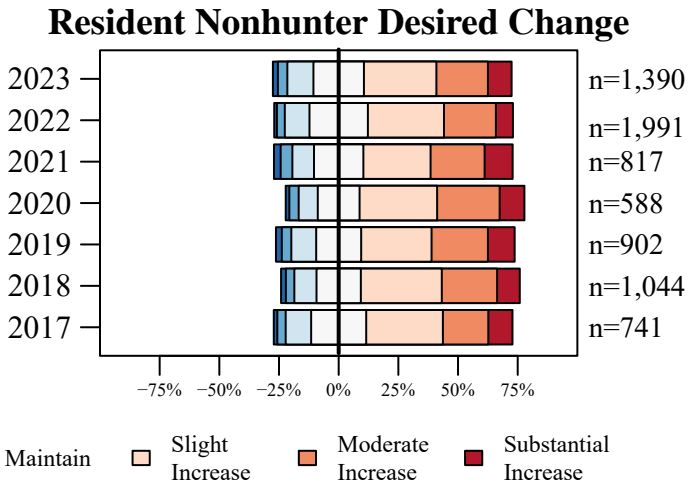

Figure 18. The desired change in the size of the deer population described by nonhunters in the county where they live in DMU 4.

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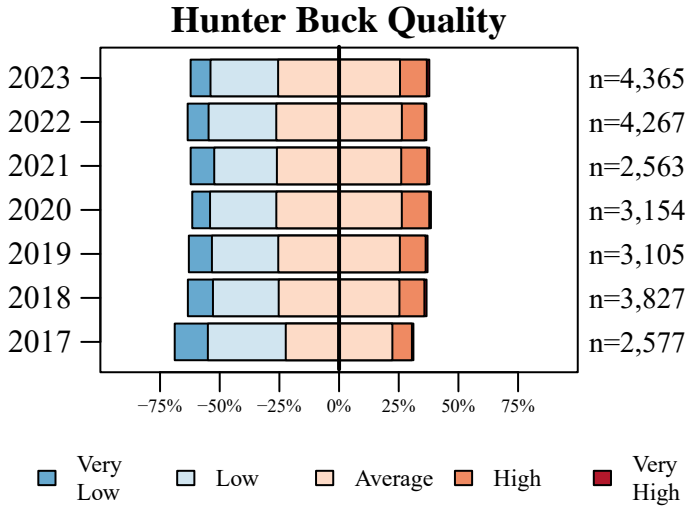
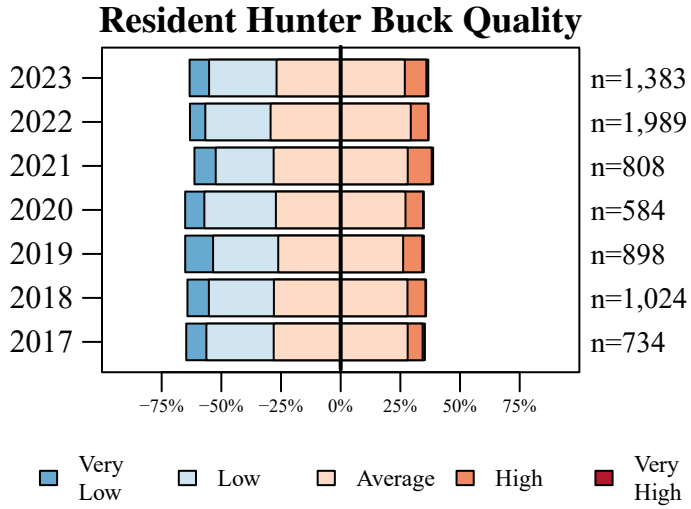


Figure 19. Hunters describe the quality of bucks in the county where they hunt in DMU 4.



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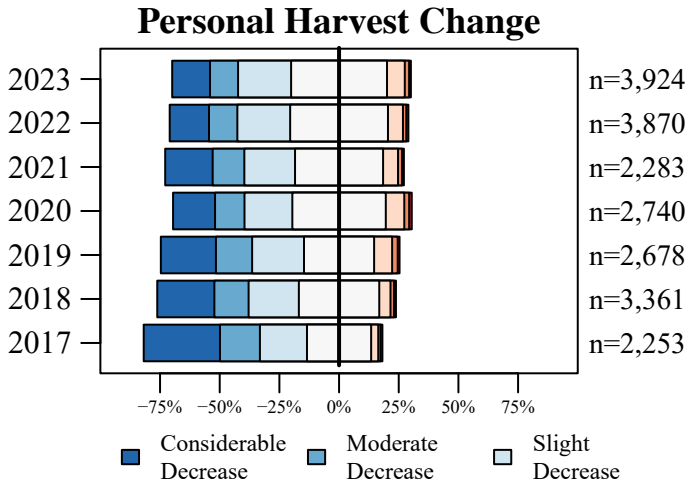

Figure 21. Opinion of hunters on how their personal number of harvested deer has changed over the last five years in a county in DMU 4.

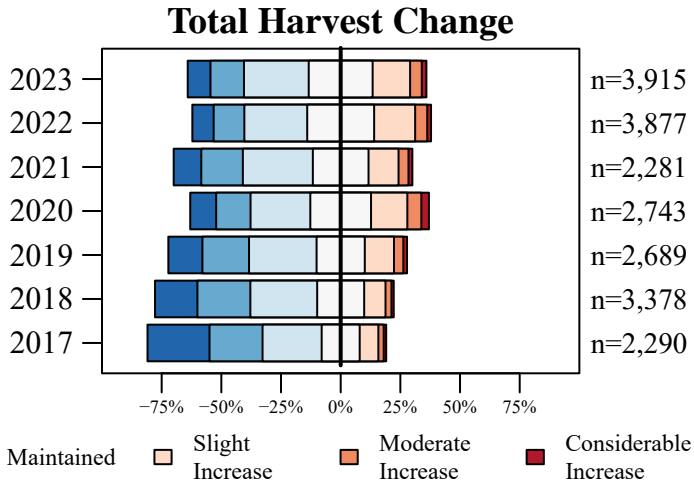

Figure 22. Opinion of hunters on how the total number of harvested deer has changed over the last five years in a county in DMU 4.

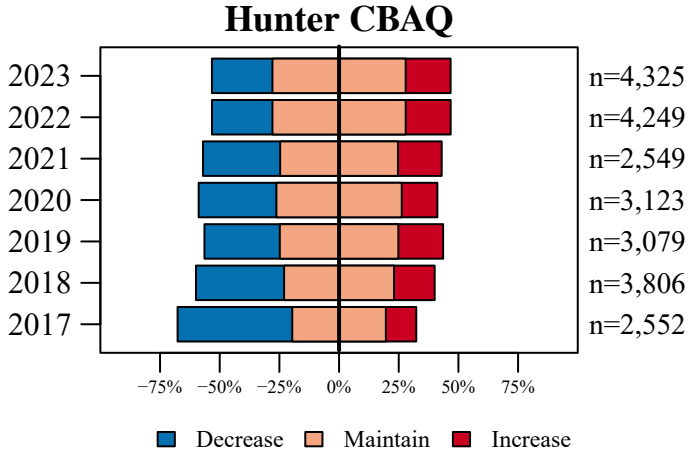

Figure 23. Opinion on how the County Bonus Antlerless Quota should change from hunters in the county where they hunt in DMU 4.

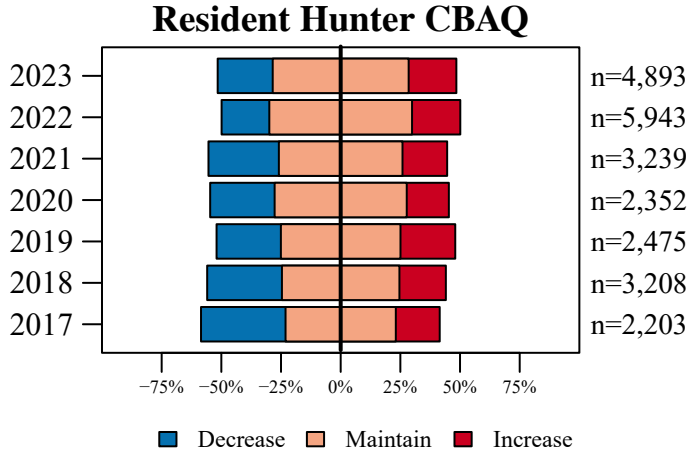

Figure 24. Opinion on how the County Bonus Antlerless Quota should change from hunters in the county where they live in DMU 4.

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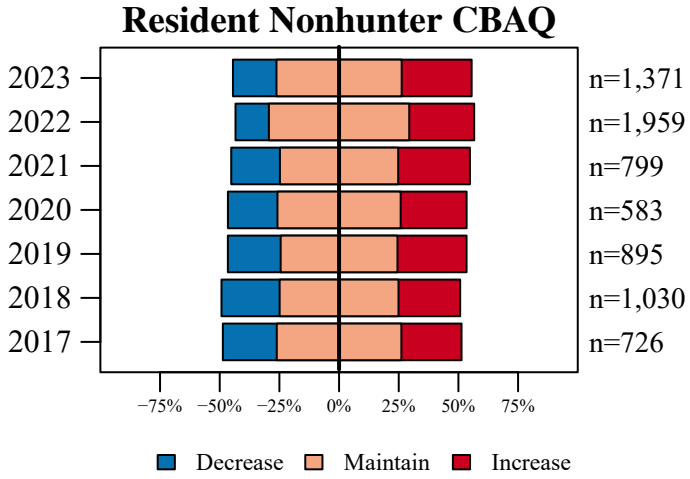


Figure 25. Opinion on how the County Bonus Antlerless Quota should change from nonhunters in the county where they live in DMU 4.

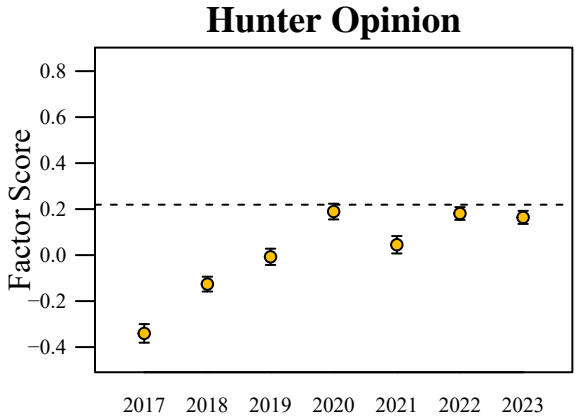


Figure 26. Hunter opinon scores over five years of the deer management survey. The score was aggregated using factor analysis of questions asked only to hunters. The dashed line represents the score if all questions are answered neutrally.

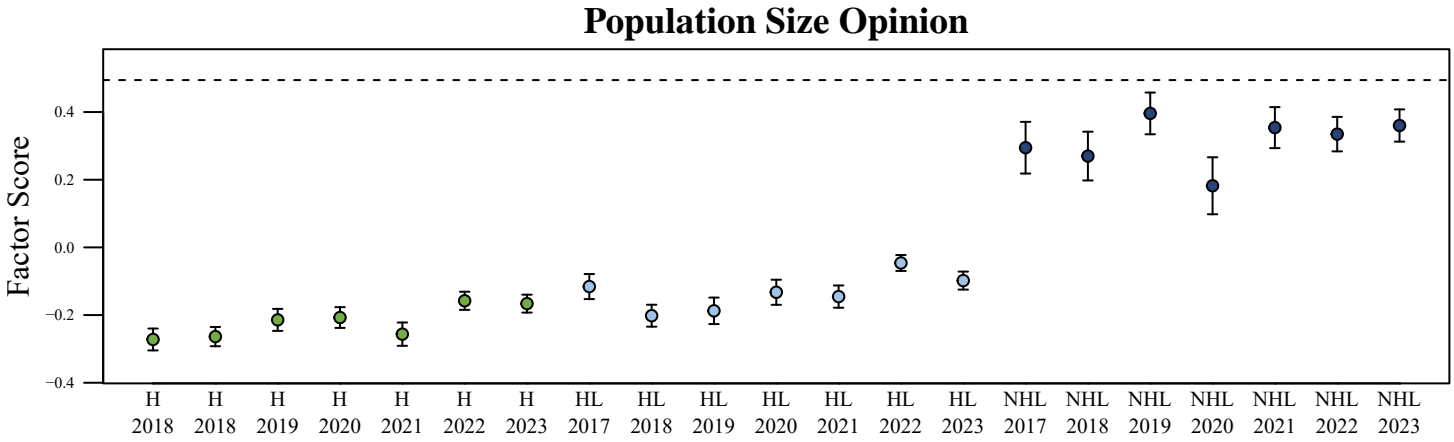


Figure 27. The opinion of nonhunters (NHL) and hunters in the county where they live (HL) and hunters in the county where they hunt (H) on deer population size. The score was aggregated using factor analysis of questions asked to all participants. The dashed line represents the score if all questions are answered neutrally.

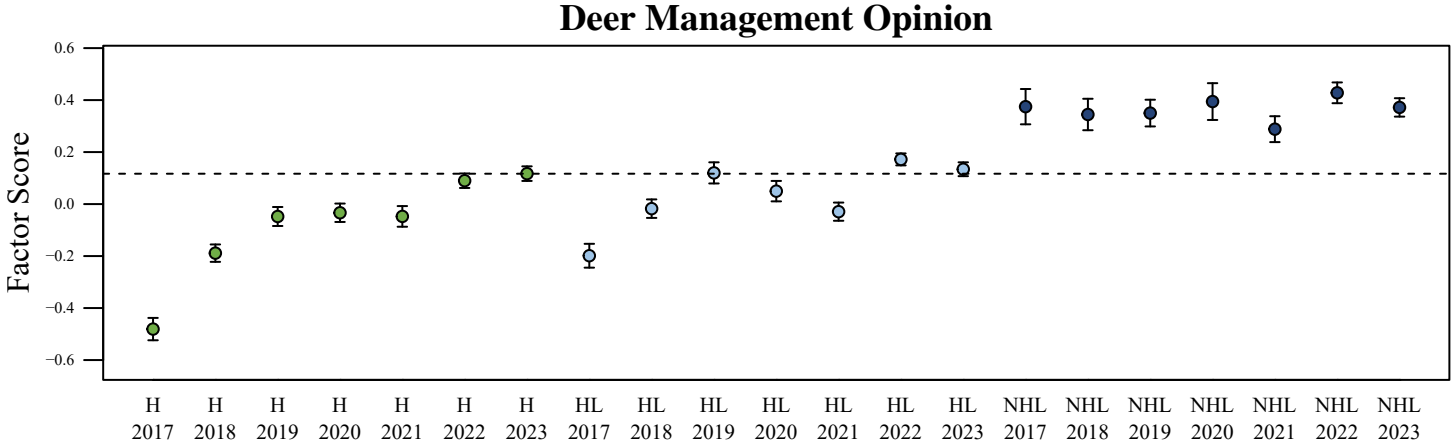


Figure 28. The opinion of nonhunters (NHL) and hunters in the county where they live (HL) and hunters in the county where they hunt (H) on deer management. The score was aggregated using factor analysis of questions asked to all participants. The dashed line represents the score if all questions are answered neutrally.

DMU 4: East Central

5/23/2024

Deer Management Survey Results

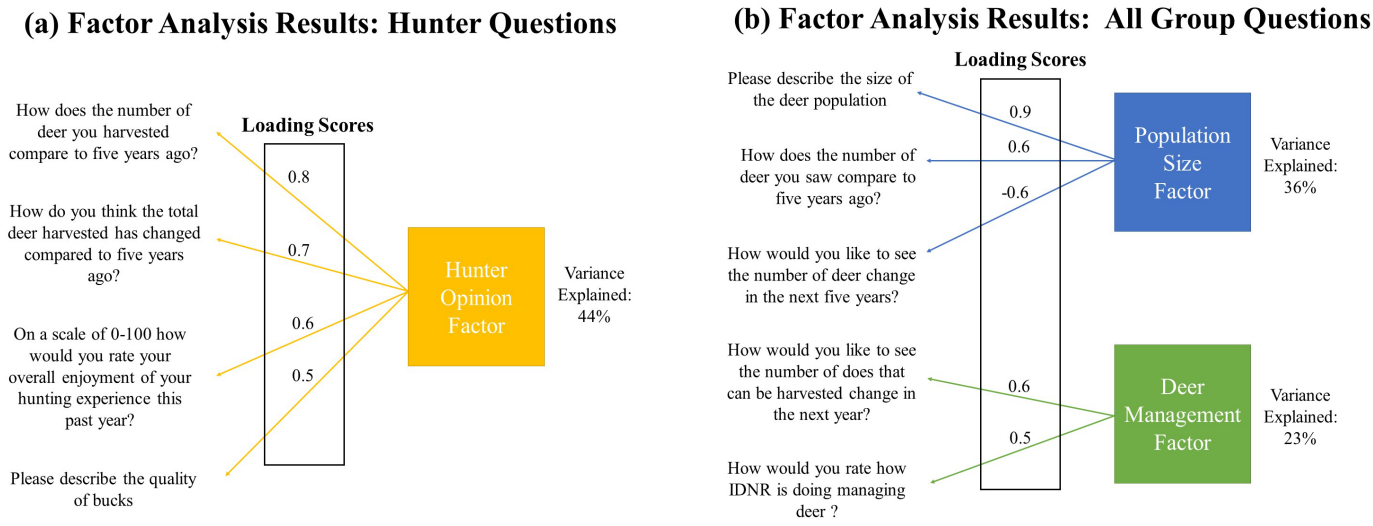


Figure 29. Results from two factor analyses used to develop the hunter opinion (a), population opinion (b), and management opinion (b) scores. Higher loading scores indicate a stronger correlation between the original question and the derived factor. These figures are included to help interpret Figure 26, Figure 27, and Figure 28.

DMU 5: Wabash

5/23/2024

Total Square Miles: 2,416
Square Miles of Deer Habitat: 957
Percent Deer Habitat: 40

Table 1. Total harvest, buck harvest, and doe harvest (error < 1 percent). Damage permits are issued by DNR to landowners to control deer damage. Deer vehicle collisions (DVC) and miles traveled are reported by the Indiana Department of Transportation. Mean CBAQ is the average county bonus antlerless quota of all counties in the DMU. The trend in total harvest, buck harvest, doe harvest, and DVCs are in standard deviations (SD) and are equivalent to effect size. A change greater than 2 SD is considered both a large and statistically significant effect size.

Year	Total	Total Trend in SD	Buck Harvest	Buck Trend in SD	Buck Harvest per SQ MI Habitat	Doe Harvest	Doe Trend in SD	Doe Harvest per SQ MI Habitat	% Doe in Harvest	Damage Permit Deer Taken	DVC per Billion Miles Traveled	DVC Trend in SD	Mean CBAQ
2009	10,377		5,429		5.7	4,948		5.2	47.7		289.6		5.8
2010	10,633	1.6	5,599	1.3	5.9	5,034	1.3	5.3	47.3		259.4	-0.5	6.7
2011	10,827	1.7	5,657	1.5	5.9	5,170	1.5	5.4	47.8		265.2	-0.7	6.7
2012	11,128	1.6	5,243	-0.8	5.5	5,885	3.1	6.1	52.9		237.9	-2.1	7.3
2013	9,510	-2.2	4,840	-2.8	5.1	4,670	-1.1	4.9	49.1		253.7	-0.6	6.0
2014	9,116	-2.2	4,727	-1.9	4.9	4,389	-1.7	4.6	48.1		236.8	-1.3	5.3
2015	9,785	-0.5	5,115	-0.2	5.3	4,670	-0.6	4.9	47.7		267.1	1.3	5.2
2016	9,931	-0.2	5,475	1.0	5.7	4,456	-0.8	4.7	44.9	78	284.5	2.2	5.2
2017	9,619	-0.4	5,013	-0.2	5.2	4,606	-0.3	4.8	47.9	76	268.7	0.6	4.5
2018	9,831	0.8	5,387	1.2	5.6	4,444	-0.9	4.6	45.2	72	288.1	1.5	3.5
2019	9,176	-1.5	5,185	0.1	5.4	3,991	-4.4	4.2	43.5	82	269.4	0.0	2.0
2020	10,103	1.5	5,813	3.0	6.1	4,290	-0.5	4.5	42.5	63	251.4	-2.4	2.0
2021	9,594	-0.4	5,658	0.9	5.9	3,936	-1.8	4.1	41.0	67	275.9	0.2	2.0
2022	10,011	1.0	5,885	1.4	6.1	4,126	-0.4	4.3	41.2	69	270.1	0.0	2.0
2023	9,789	0.1	5,672	0.3	5.9	4,117	-0.2	4.3	42.1	54	245.4	-1.9	3.0

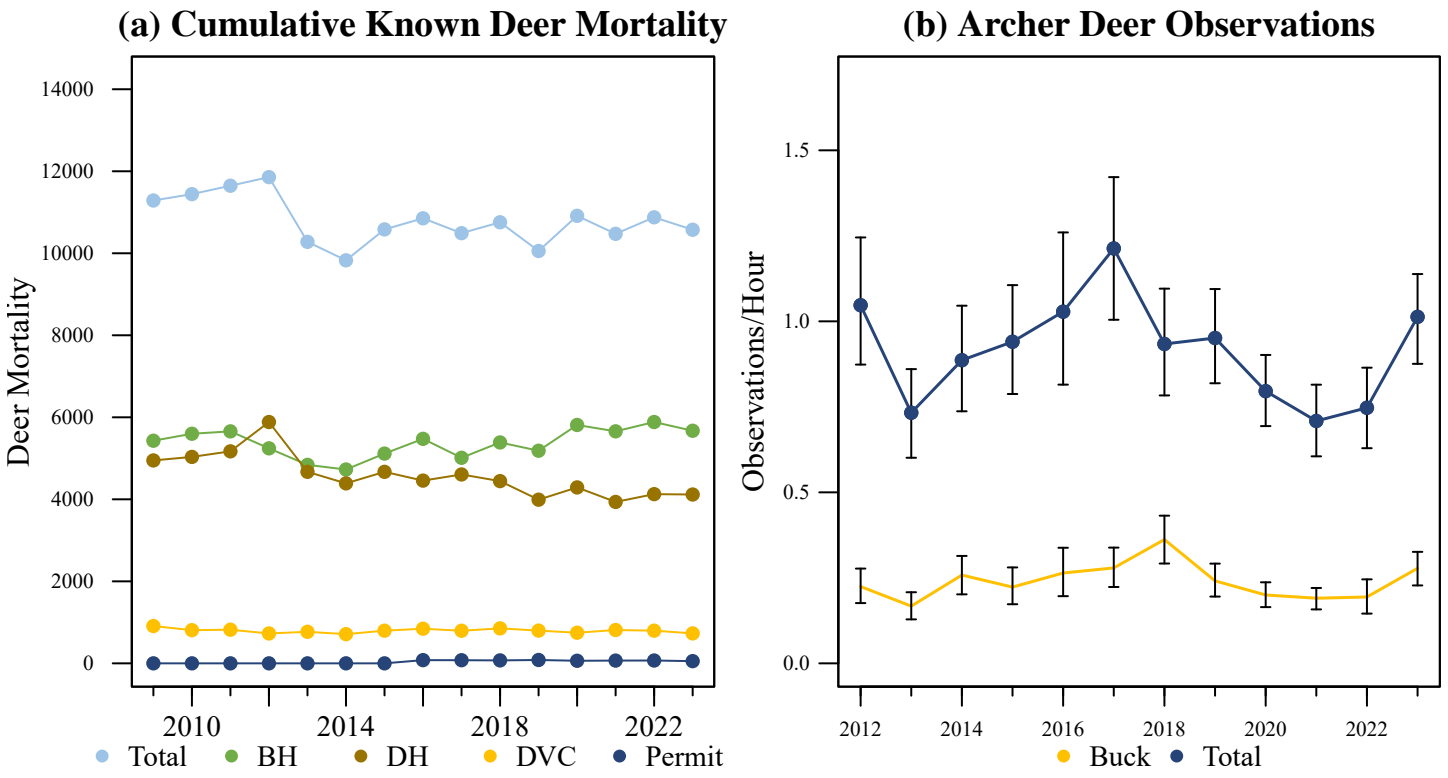


Figure 1. (a) The total known annual deer mortality based on buck harvests (BH), doe harvests (DH), deer vehicle collisions (DVC), and deer permit takes. (b) Total deer and buck observations per hour based on the Archer's Index.

DMU 5: Wabash

5/23/2024

Total Square Miles: 2,416
Square Miles of Deer Habitat: 957
Percent Deer Habitat: 40

Table 2. Estimated number of antlered (A) and antlerless (AL) deer harvested per hunter. Estimated totals may not match exactly with total number of deer harvested. Reporting errors are examined and investigated as they are located; therefore, subsequent reports may contain corrected totals.

Year	Total Hunters	0 A	1 A	2 A	3 A	0 AL	1 AL	2 AL	3 AL	4 AL	5 AL	6 AL	7 AL	8 AL	9 AL	10 AL
2016	7,573	3,006	4,557	9	1	3,454	3,158	763	143	42	9	2	1	1	0	0
2017	7,115	3,098	4,007	7	3	2,974	3,036	872	157	55	11	7	3	0	0	0
2018	7,379	2,930	4,436	12	1	3,262	3,101	818	166	28	3	1	0	0	0	0
2019	7,083	2,844	4,230	9	0	3,127	3,085	784	76	8	3	0	0	0	0	0
2020	7,784	2,820	4,946	18	0	3,662	3,229	804	73	15	1	0	0	0	0	0
2021	7,554	2,663	4,884	7	0	3,697	3,089	704	58	5	1	0	0	0	0	0
2022	7,805	2,664	5,130	10	1	3,853	3,123	764	53	12	0	0	0	0	0	0
2023	7,542	2,626	4,897	19	0	3,667	3,038	721	98	14	1	2	1	0	0	0

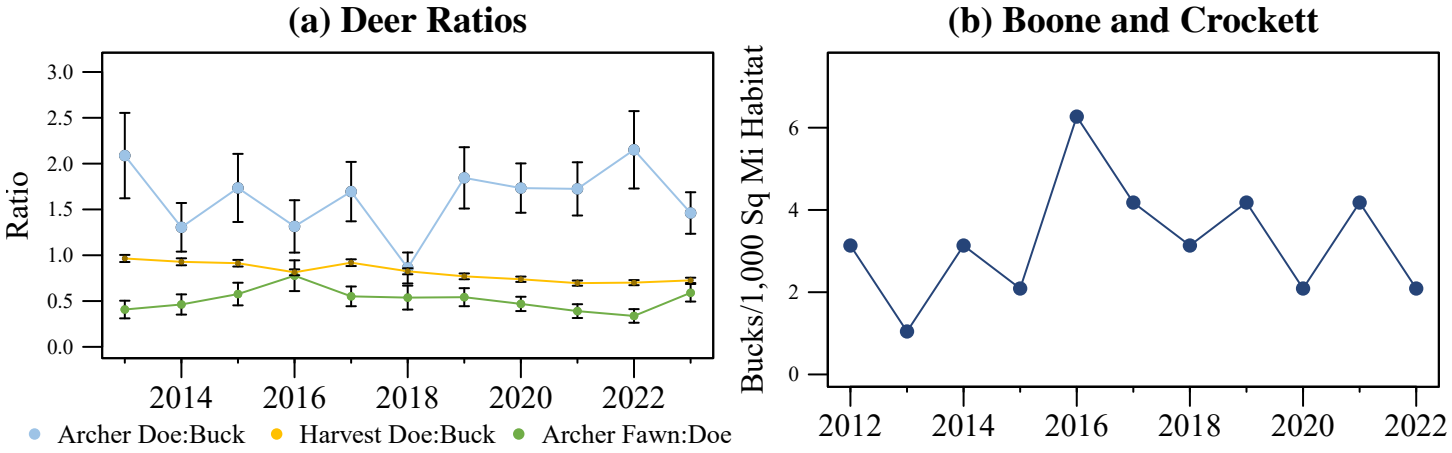


Figure 2. (a) Annual doe:buck ratios and fawn:doe ratios based on the Archer's Index and harvest records. (b) The number of Boone and Crockett bucks (minimum 160 score) per 1,000 square miles of deer habitat.

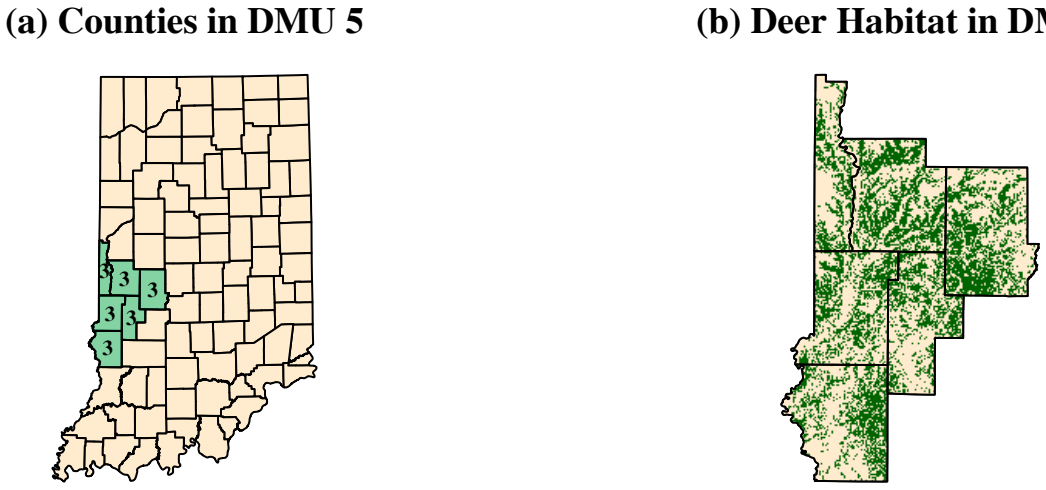


Figure 3. (a) Counties included in DMU 5 for summarizing harvest and deer management survey statistics. Labels are the 2023 county bonus antlerless quotas. (b) Green represents the land use types classified as deer habitat in DMU 5.

DMU 5: Wabash

5/23/2024

Deer Management Survey Results

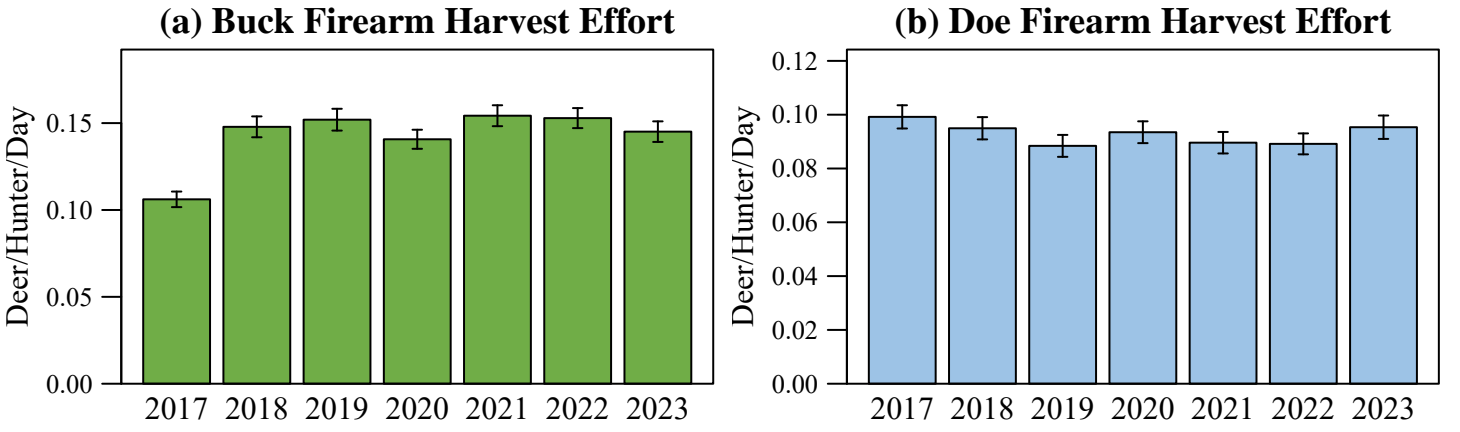


Figure 4. Firearm harvest effort is the number of bucks (a) and does (b) killed by firearms per hunter divided by the mean number of days hunted per hunter during the firearm season based on data reported in the deer management survey. Larger values (i.e taller bars) indicate less effort required to harvest a deer.

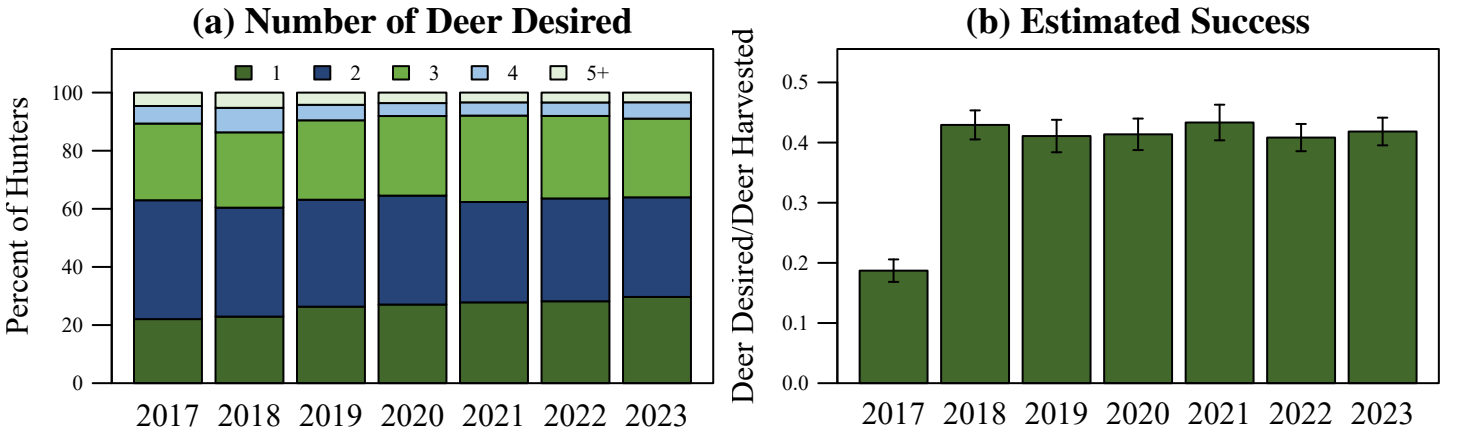


Figure 5. (a) The annual percent of hunters wishing to harvest each number of deer as reported in the deer management survey. (b) Success rate is estimated from the deer management survey as the Number of Harvested Deer/Number of Deer Desired (reported only; does not account for attempts that were not made). Larger values (i.e. taller bars) indicate greater success.

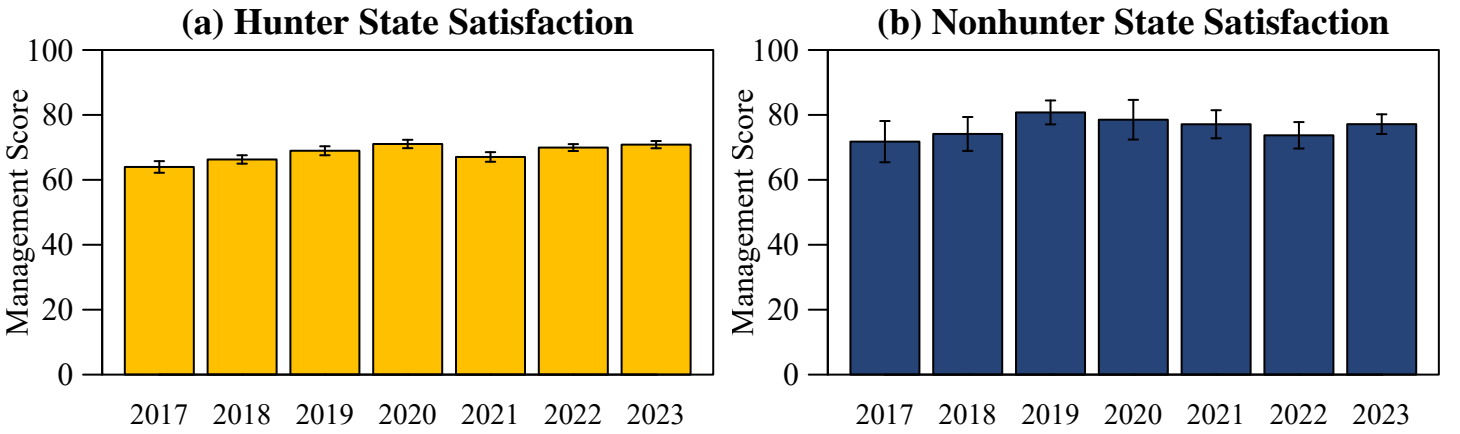


Figure 6. Hunters (a) and nonhunters (b) were asked to score the DNR's statewide deer management on a scale of 0 (poor) to 100 (excellent).

DMU 5: Wabash

5/23/2024

Deer Management Survey Results

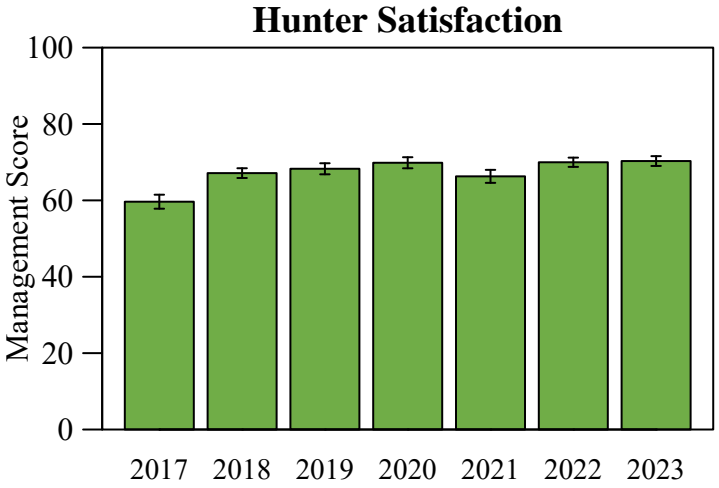


Figure 7. Hunters were asked to score the DNR's county deer management on a scale of 0 (poor) to 100 (excellent) for the county in DMU 5 where they hunt.

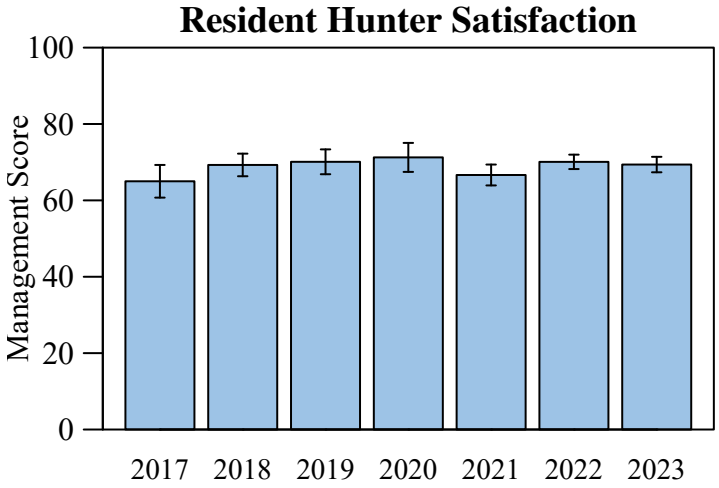


Figure 8. Hunters were asked to score the DNR's county deer management on a scale of 0 (poor) to 100 (excellent) for the county in DMU 5 where they live.

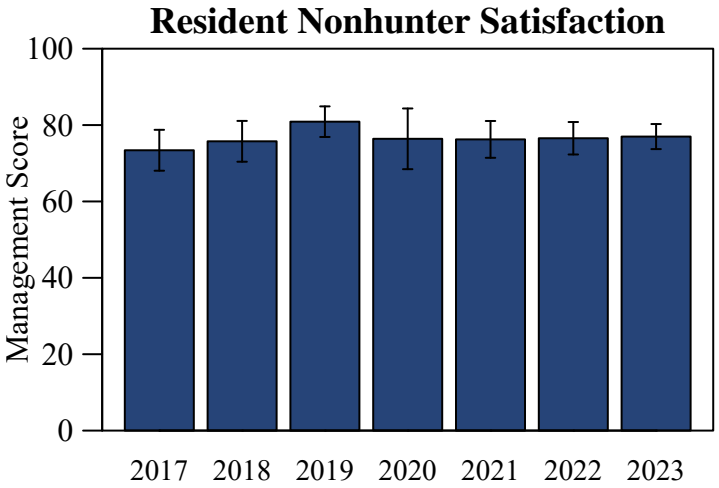


Figure 9. Nonhunters were asked to score the DNR's county deer management on a scale of 0 (poor) to 100 (excellent) for the county in DMU 5 where they live.

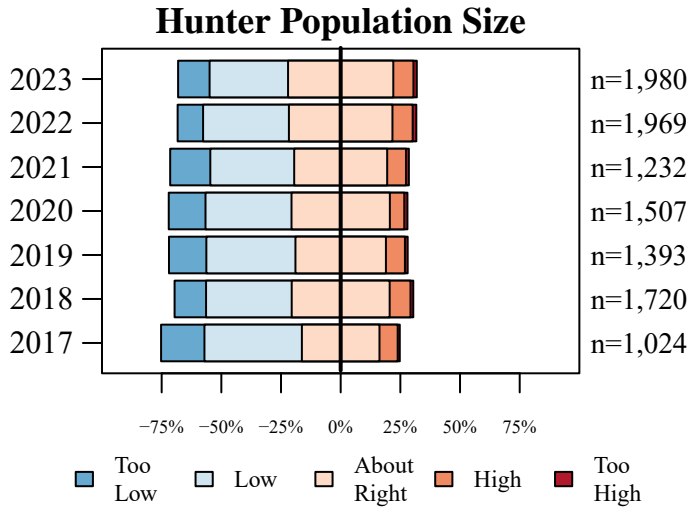


Figure 10. The current size of the deer population described by hunters in the county where they hunt in DMU 5.

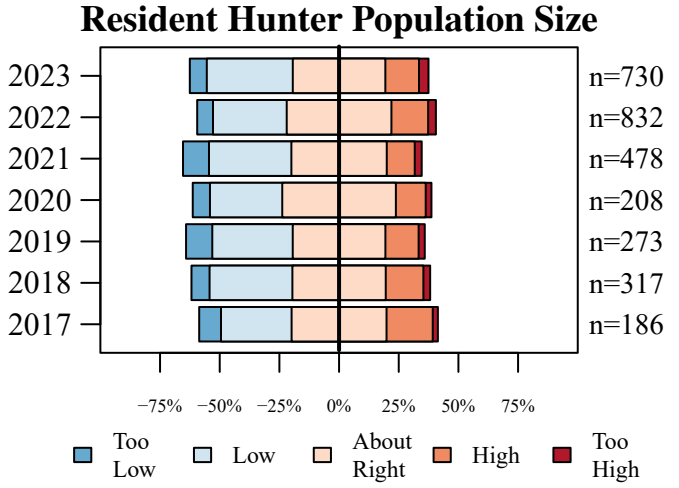


Figure 11. The current size of the deer population described by hunters in the county where they live in DMU 5.

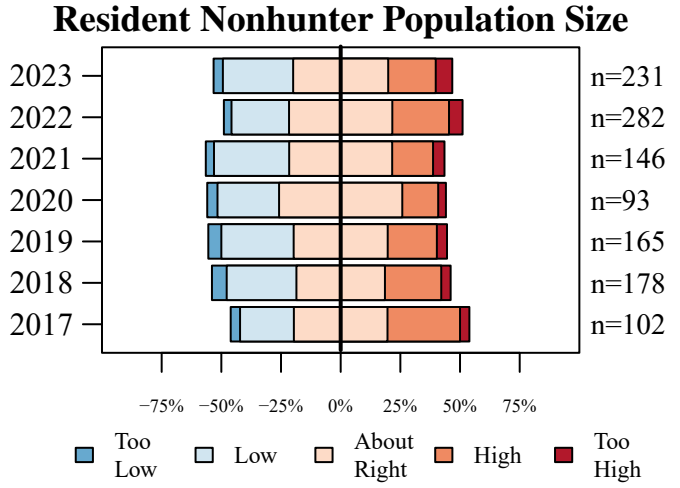


Figure 12. The current size of the deer population described by nonhunters in the county where they live in DMU 5.

DMU 5: Wabash

5/23/2024

Deer Management Survey Results

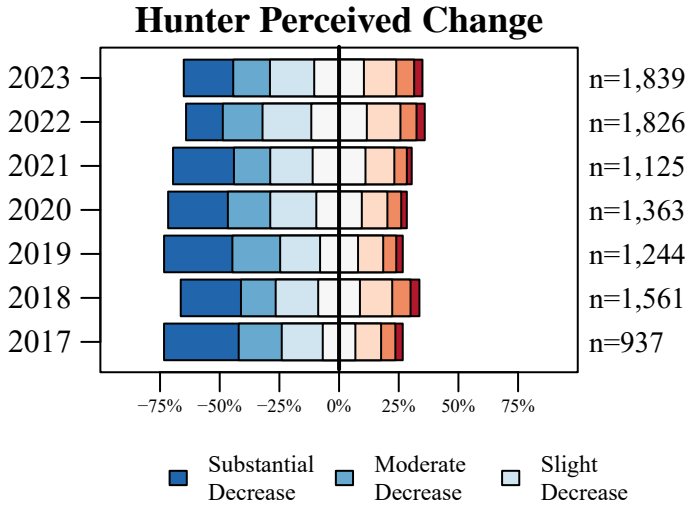


Figure 13. The number of deer seen compared to five years ago described by hunters in the county where they hunt in DMU 5.

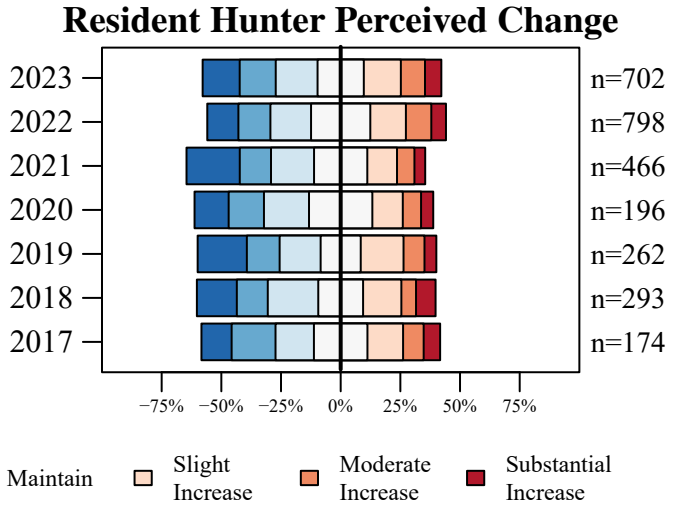


Figure 14. The number of deer seen compared to five years ago described by hunters in the county where they live in DMU 5.

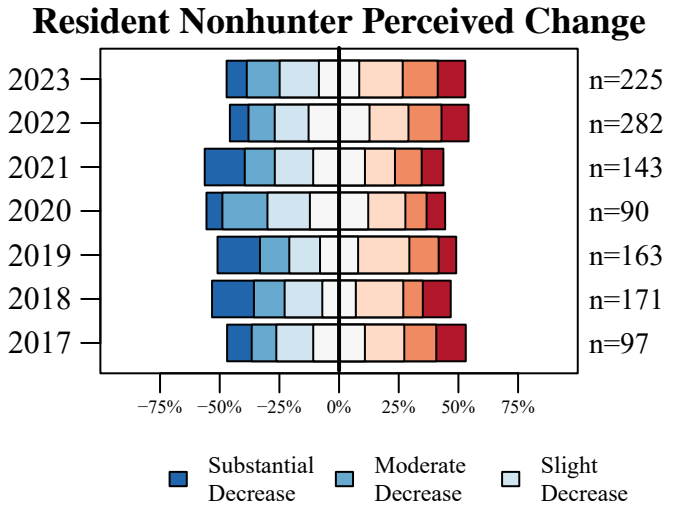


Figure 15. The number of deer seen compared to five years ago described by nonhunters in the county where they live in DMU 5.

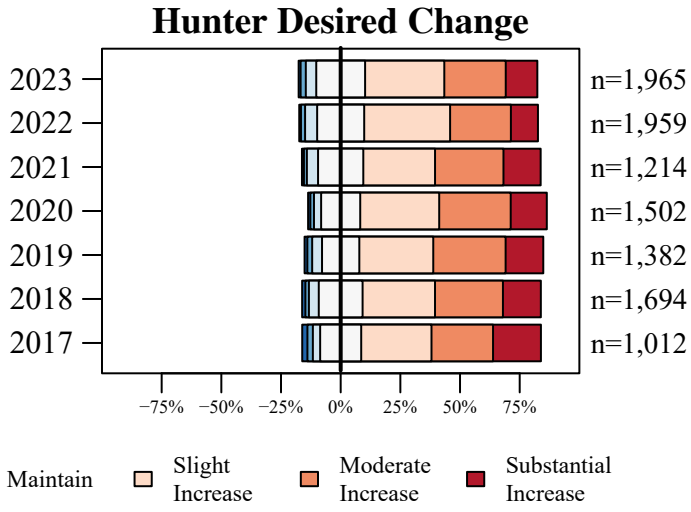


Figure 16. The desired change in the size of the deer population described by hunters in the county where they hunt in DMU 5.

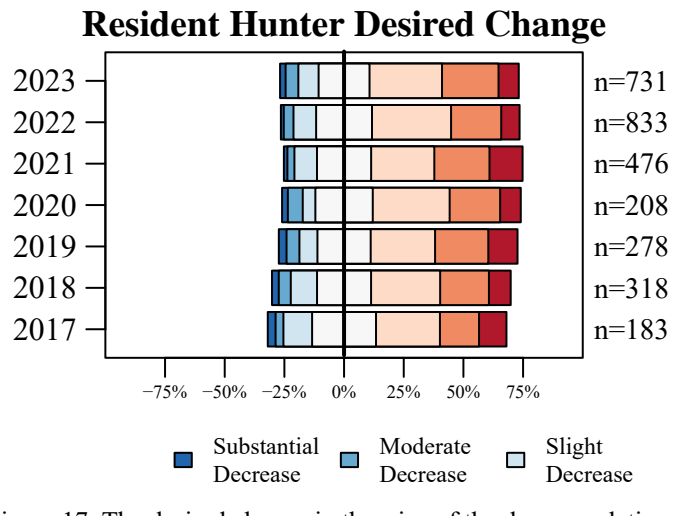


Figure 17. The desired change in the size of the deer population described by hunters in the county where they live in DMU 5.

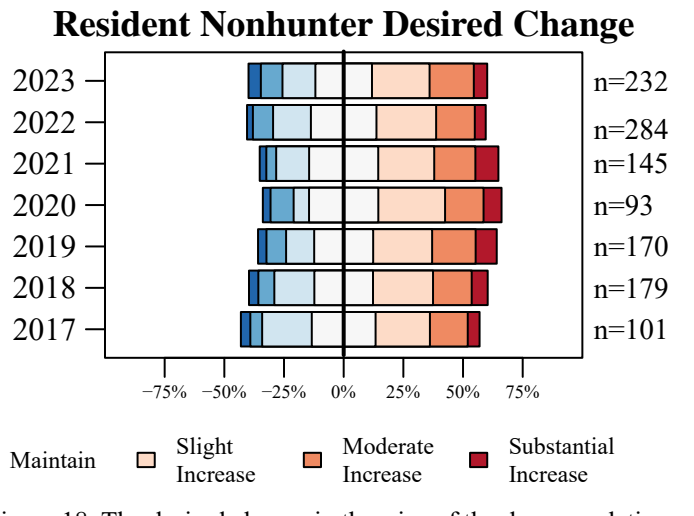


Figure 18. The desired change in the size of the deer population described by nonhunters in the county where they live in DMU 5.

DMU 5: Wabash

5/23/2024

Deer Management Survey Results

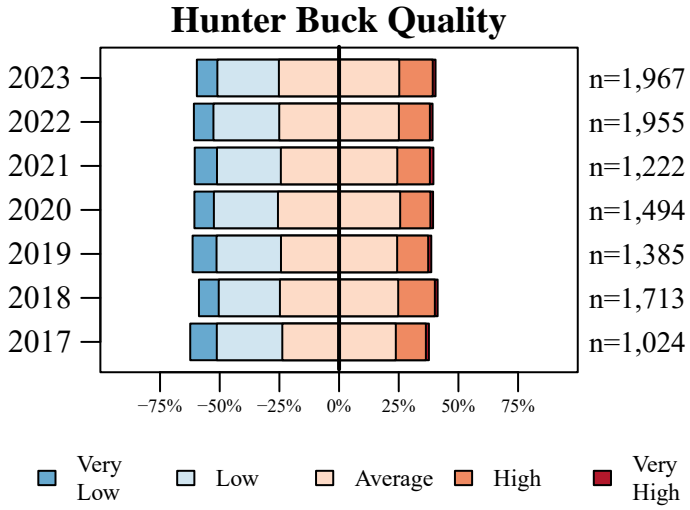


Figure 19. Hunters describe the quality of bucks in the county where they hunt in DMU 5.

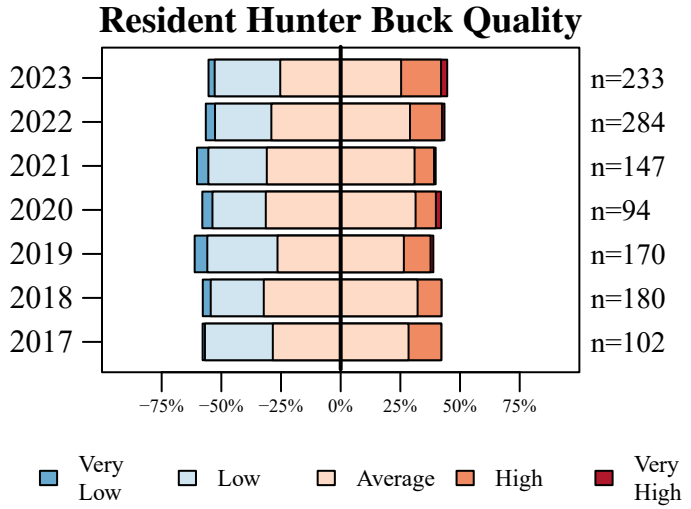


Figure 20. Hunters describe the quality of bucks in the county where they live in DMU 5.

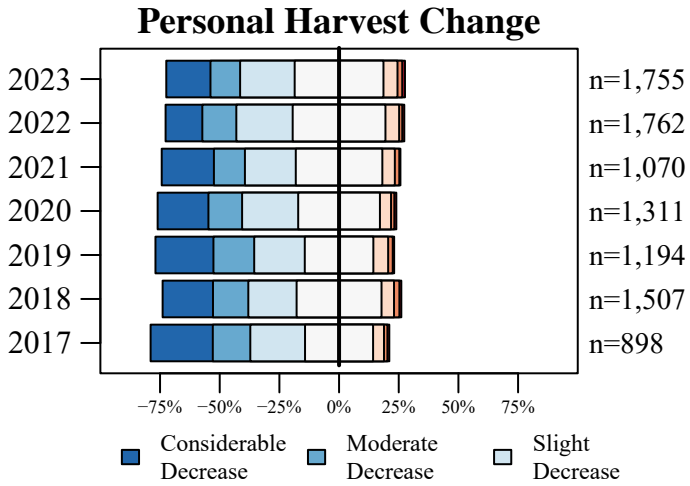


Figure 21. Opinion of hunters on how their personal number of harvested deer has changed over the last five years in a county in DMU 5.

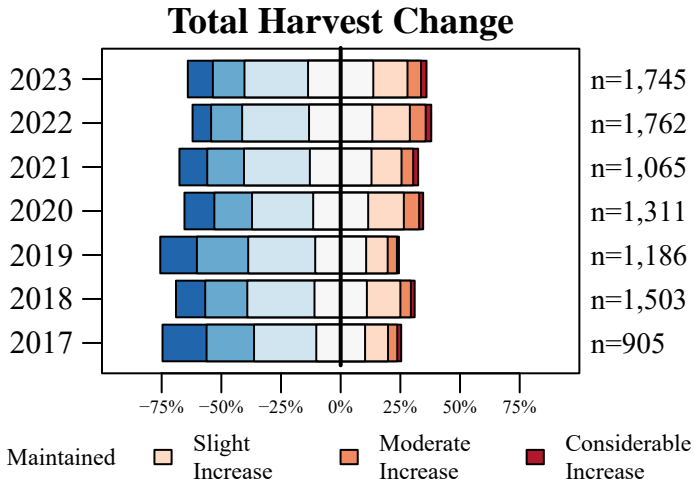


Figure 22. Opinion of hunters on how the total number of harvested deer has changed over the last five years in a county in DMU 5.

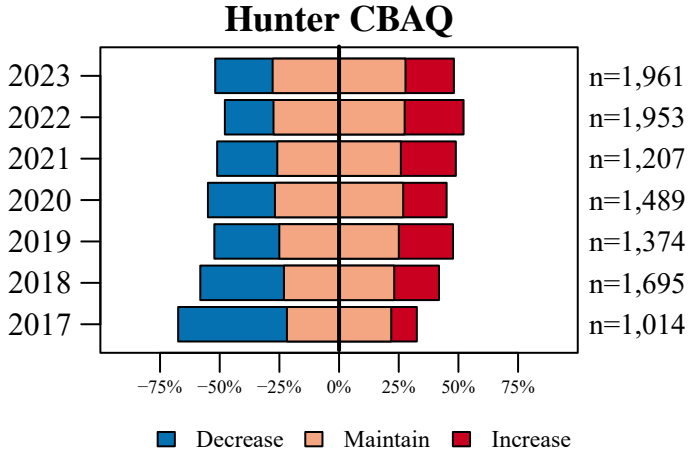


Figure 23. Opinion on how the County Bonus Antlerless Quota should change from hunters in the county where they hunt in DMU 5.

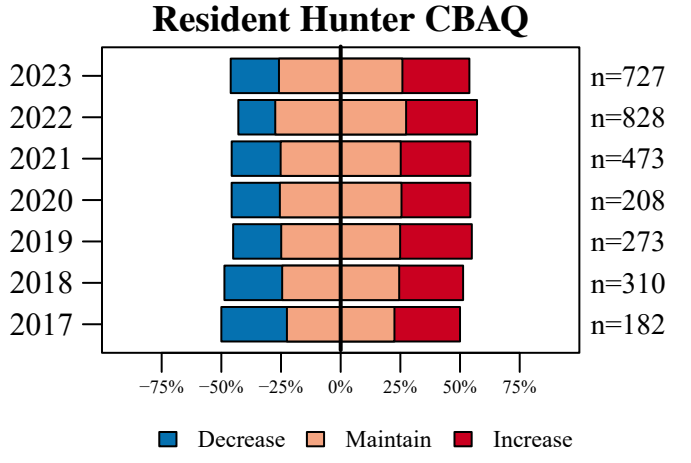


Figure 24. Opinion on how the County Bonus Antlerless Quota should change from hunters in the county where they live in DMU 5.

DMU 5: Wabash

5/23/2024

Deer Management Survey Results

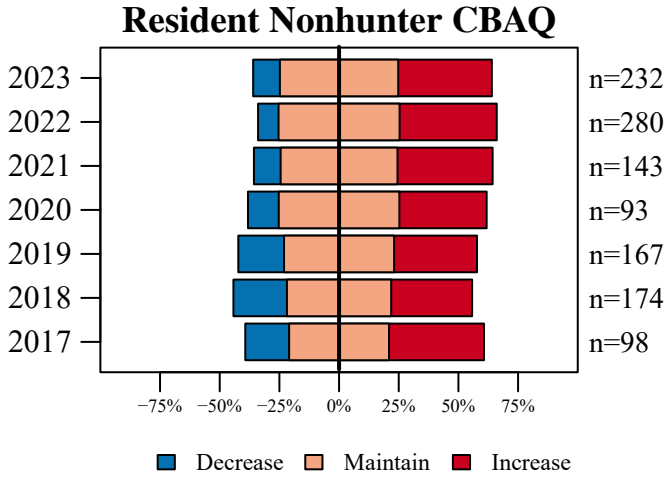
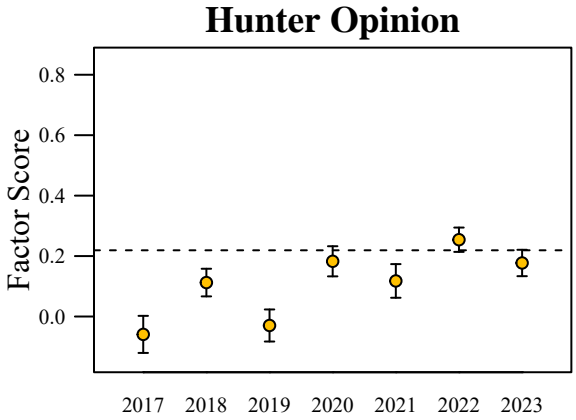


Figure 25. Opinion on how the County Bonus Antlerless Quota should change from nonhunters in the county where they live in DMU 5.



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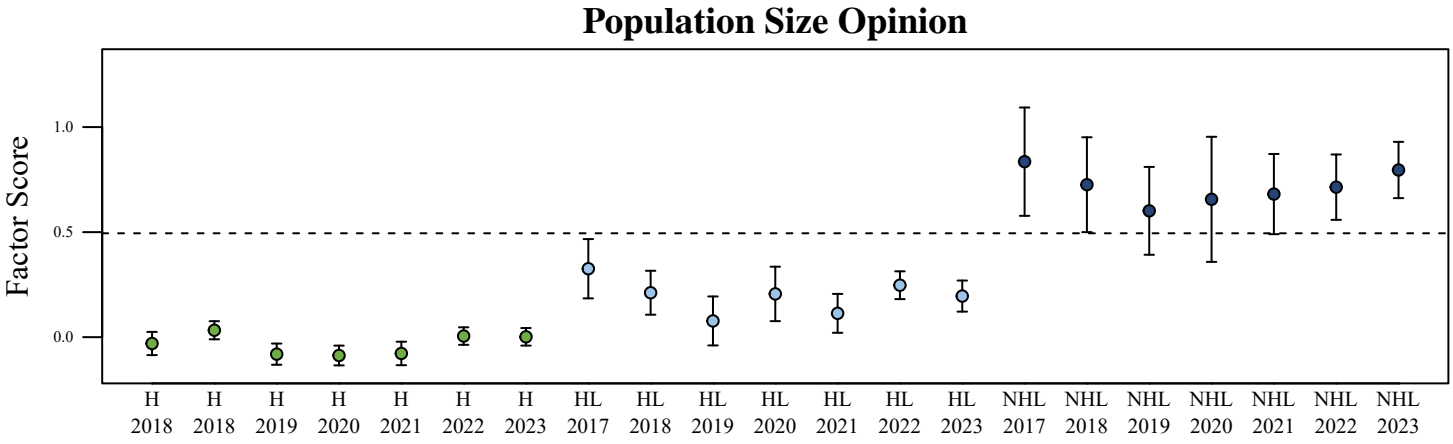

Figure 27. The opinion of nonhunters (NHL) and hunters in the county where they live (HL) and hunters in the county where they hunt (H) on deer population size. The score was aggregated using factor analysis of questions asked to all participants. The dashed line represents the score if all questions are answered neutrally.

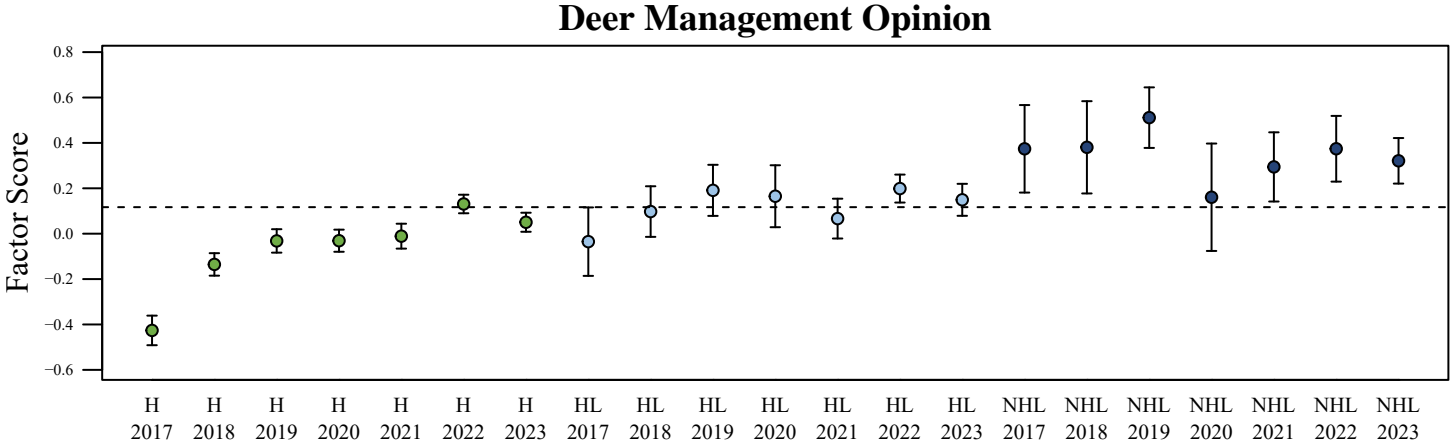

Figure 28. The opinion of nonhunters (NHL) and hunters in the county where they live (HL) and hunters in the county where they hunt (H) on deer management. The score was aggregated using factor analysis of questions asked to all participants. The dashed line represents the score if all questions are answered neutrally.

DMU 5: Wabash

5/23/2024

Deer Management Survey Results

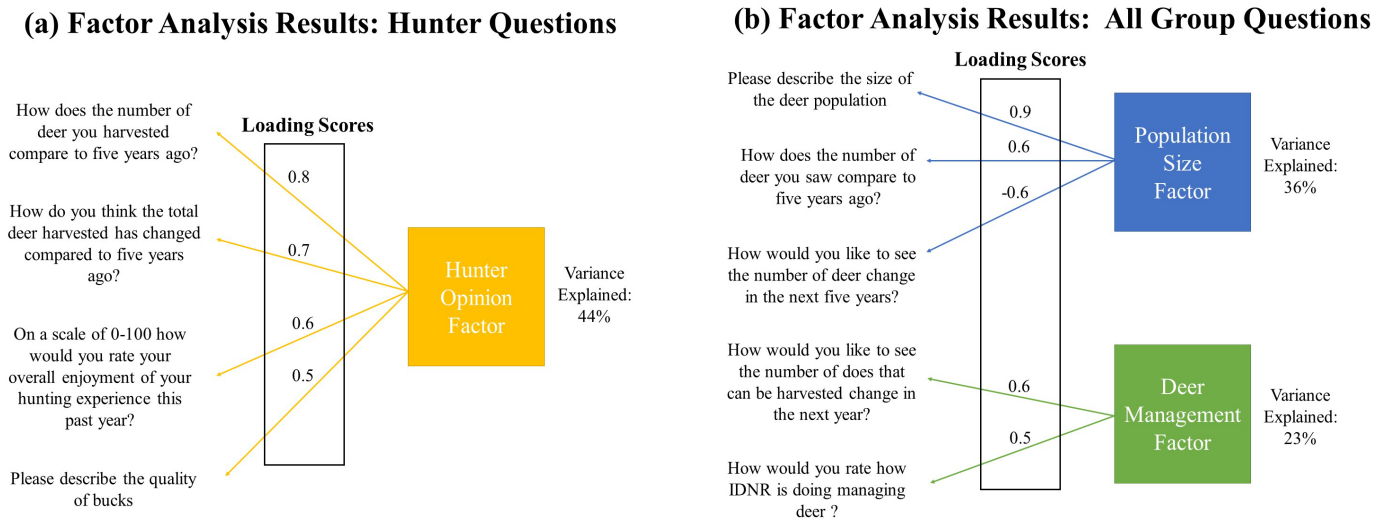

Figure 29. Results from two factor analyses used to develop the hunter opinion (a), population opinion (b), and management opinion (b) scores. Higher loading scores indicate a stronger correlation between the original question and the derived factor. These figures are included to help interpret Figure 26, Figure 27, and Figure 28.

DMU 6: South

5/23/2024

Total Square Miles: 6,368
Square Miles of Deer Habitat: 4,482
Percent Deer Habitat: 70

Table 1. Total harvest, buck harvest, and doe harvest (error < 1 percent). Damage permits are issued by DNR to landowners to control deer damage. Deer vehicle collisions (DVC) and miles traveled are reported by the Indiana Department of Transportation. Mean CBAQ is the average county bonus antlerless quota of all counties in the DMU. The trend in total harvest, buck harvest, doe harvest, and DVCs are in standard deviations (SD) and are equivalent to effect size. A change greater than 2 SD is considered both a large and statistically significant effect size.

Year	Total	Total Trend in SD	Buck Harvest	Buck Trend in SD	Buck Harvest per SQ MI Habitat	Doe Harvest	Doe Trend in SD	Doe Harvest per SQ MI Habitat	% Doe in Harvest	Damage Permit Deer Taken	DVC per Billion Miles Traveled	DVC Trend in SD	Mean CBAQ
2009	28,970		14,840		3.3	14,130		3.2	48.8		278.6		5.0
2010	28,143	-0.4	14,197	-0.5	3.2	13,946	-0.1	3.1	49.6		263.7	-1.0	5.4
2011	29,468	1.3	14,809	0.9	3.3	14,659	1.4	3.3	49.7		275.0	-0.5	5.7
2012	31,458	3.2	14,485	0.3	3.2	16,973	5.2	3.8	54.0		283.3	0.6	5.6
2013	33,888	3.5	16,201	4.9	3.6	17,687	2.3	3.9	52.2		316.5	5.7	5.3
2014	30,442	0.0	14,599	-0.4	3.3	15,843	0.2	3.5	52.0		293.6	0.5	6.1
2015	32,927	1.0	16,736	2.4	3.7	16,191	0.2	3.6	49.2		332.1	2.3	5.9
2016	30,864	-0.4	16,234	0.8	3.6	14,630	-1.4	3.3	47.4	675	301.0	0.0	5.9
2017	31,315	-0.4	15,475	-0.2	3.5	15,840	-0.4	3.5	50.6	749	335.9	1.6	5.7
2018	27,746	-2.8	14,274	-1.9	3.2	13,472	-2.3	3.0	48.6	722	314.6	-0.1	4.7
2019	26,660	-2.1	14,233	-1.2	3.2	12,427	-2.4	2.8	46.6	612	299.6	-0.9	2.0
2020	26,639	-1.3	14,746	-0.6	3.3	11,893	-1.7	2.7	44.6	360	254.0	-3.7	2.4
2021	25,784	-1.3	14,997	0.0	3.3	10,787	-1.8	2.4	41.8	495	265.5	-1.2	2.4
2022	26,971	-0.3	15,379	1.2	3.4	11,592	-0.7	2.6	43.0	444	280.0	-0.4	2.0
2023	26,706	-0.1	15,089	0.7	3.4	11,617	-0.4	2.6	43.5	650	308.6	1.0	2.9

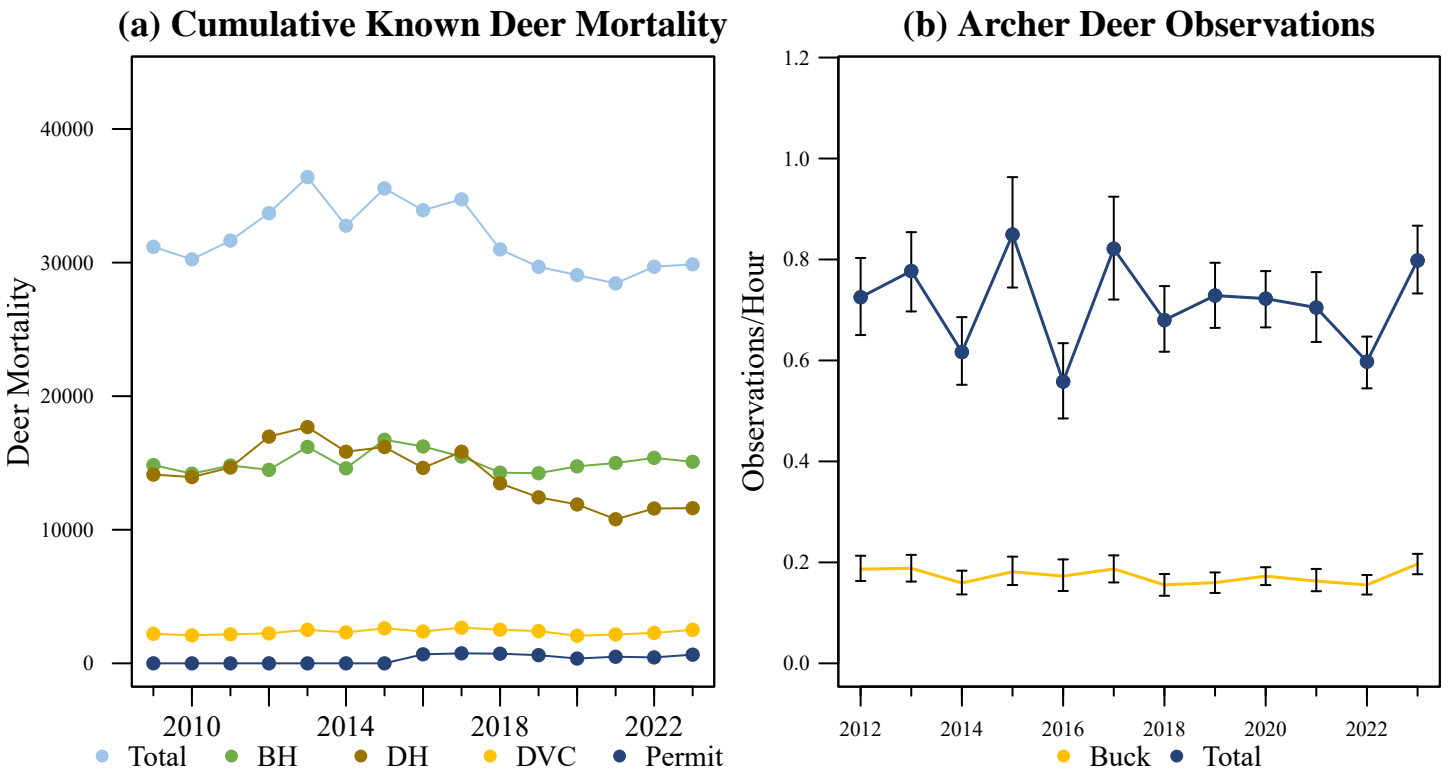

Figure 1. (a) The total known annual deer mortality based on buck harvests (BH), doe harvests (DH), deer vehicle collisions (DVC), and deer permit takes. (b) Total deer and buck observations per hour based on the Archer's Index.

DMU 6: South

5/23/2024

Total Square Miles: 6,368
Square Miles of Deer Habitat: 4,482
Percent Deer Habitat: 70

Table 2. Estimated number of antlered (A) and antlerless (AL) deer harvested per hunter. Estimated totals may not match exactly with total number of deer harvested. Reporting errors are examined and investigated as they are located; therefore, subsequent reports may contain corrected totals.

Year	Total Hunters	0 A	1 A	2 A	3 A	0 AL	1 AL	2 AL	3 AL	4 AL	5 AL	6 AL	7 AL	8 AL	9 AL	10 AL
2016	23,189	10,040	13,087	60	2	9,839	10,155	2,439	518	163	51	16	5	2	0	1
2017	22,834	10,709	12,071	52	2	8,741	10,404	2,787	614	195	51	25	8	8	1	0
2018	20,707	9,465	11,176	63	3	8,301	9,297	2,429	504	133	33	7	2	0	0	0
2019	20,569	9,206	11,287	74	2	8,422	9,403	2,473	228	36	6	0	0	0	0	0
2020	20,849	8,527	12,255	65	2	9,337	9,106	2,126	240	34	2	4	0	0	0	0
2021	20,504	7,851	12,590	61	1	9,810	8,565	1,923	180	20	5	0	0	1	0	0
2022	21,241	8,183	12,972	84	2	9,915	9,063	2,072	155	28	7	1	0	0	0	0
2023	20,841	8,000	12,767	67	7	9,787	8,682	2,069	262	32	6	2	0	1	0	0

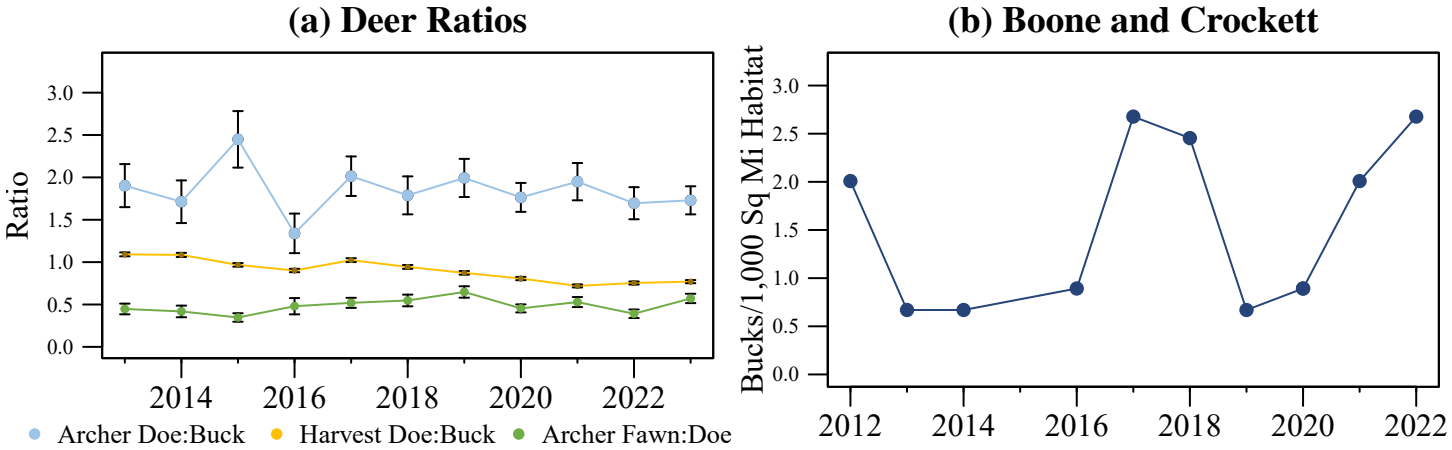

Figure 2. (a) Annual doe:buck ratios and fawn:doe ratios based on the Archer's Index and harvest records. (b) The number of Boone and Crockett bucks (minimum 160 score) per 1,000 square miles of deer habitat.

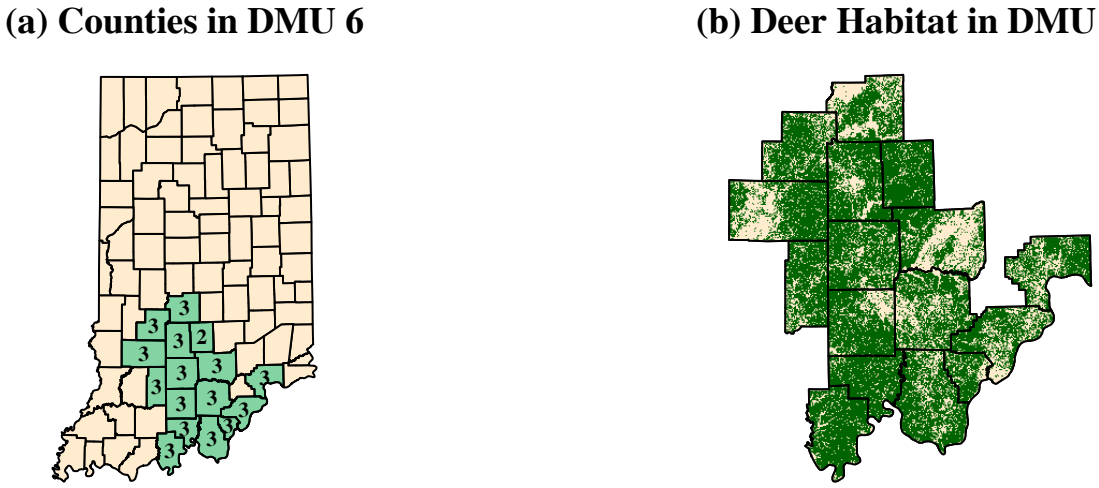

Figure 3. (a) Counties included in DMU 6 for summarizing harvest and deer management survey statistics. Labels are the 2023 county bonus antlerless quotas. (b) Green represents the land use types classified as deer habitat in DMU 6.

DMU 6: South

5/23/2024

Deer Management Survey Results

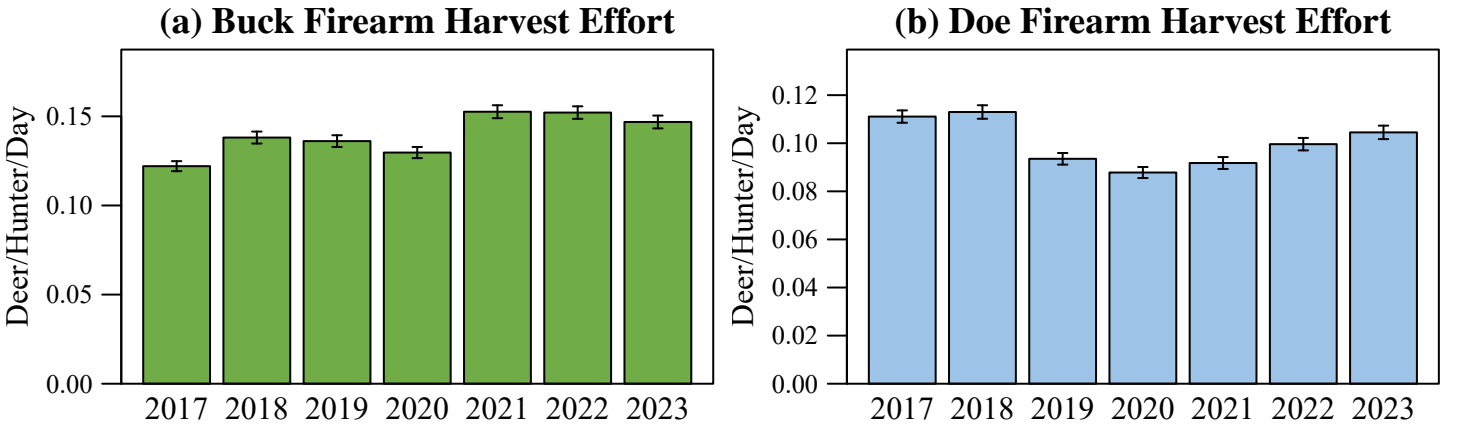

Figure 4. Firearm harvest effort is the number of bucks (a) and does (b) killed by firearms per hunter divided by the mean number of days hunted per hunter during the firearm season based on data reported in the deer management survey. Larger values (i.e taller bars) indicate less effort required to harvest a deer.

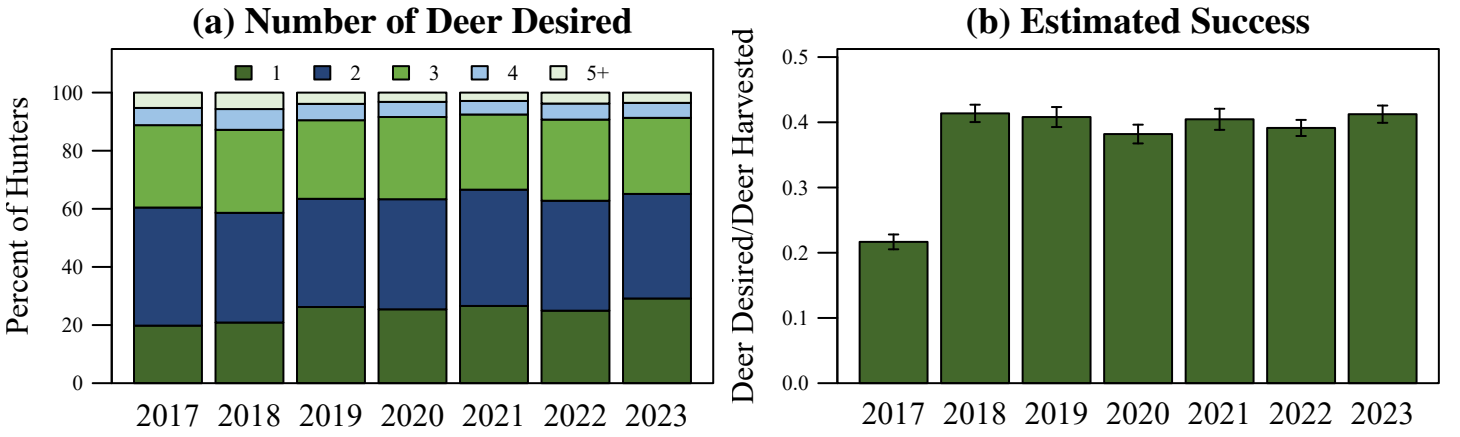

Figure 5. (a) The annual percent of hunters wishing to harvest each number of deer as reported in the deer management survey. (b) Success rate is estimated from the deer management survey as the Number of Harvested Deer/Number of Deer Desired (reported only; does not account for attempts that were not made). Larger values (i.e. taller bars) indicate greater success.

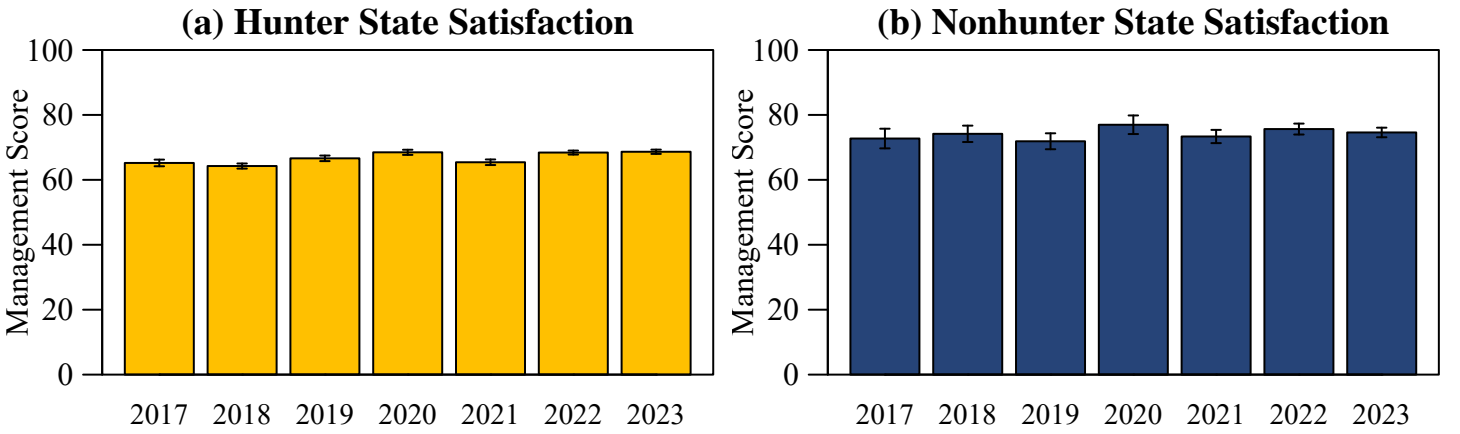

Figure 6. Hunters (a) and nonhunters (b) were asked to score the DNR's statewide deer management on a scale of 0 (poor) to 100 (excellent).

DMU 6: South

5/23/2024

Deer Management Survey Results

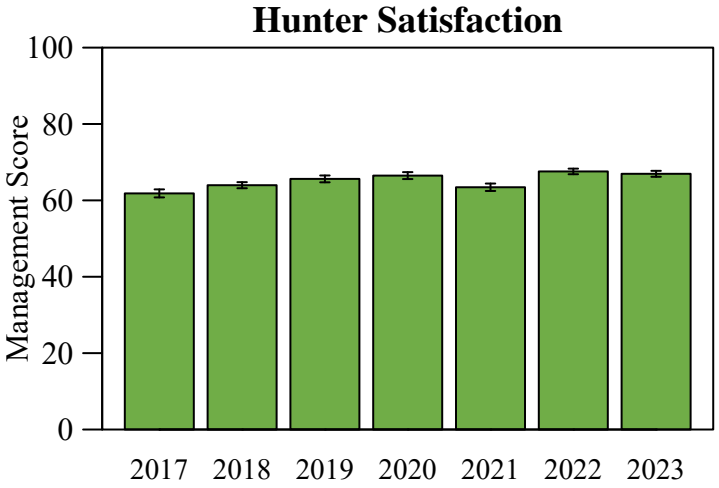

Figure 7. Hunters were asked to score the DNR's county deer management on a scale of 0 (poor) to 100 (excellent) for the county in DMU 6 where they hunt.

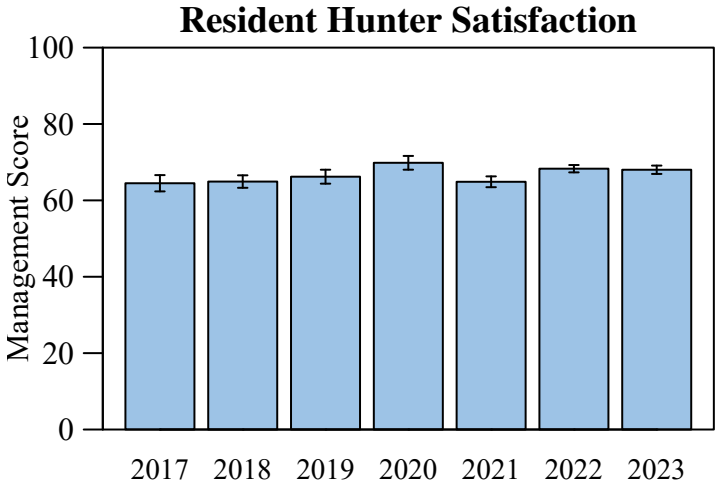

Figure 8. Hunters were asked to score the DNR's county deer management on a scale of 0 (poor) to 100 (excellent) for the county in DMU 6 where they live.

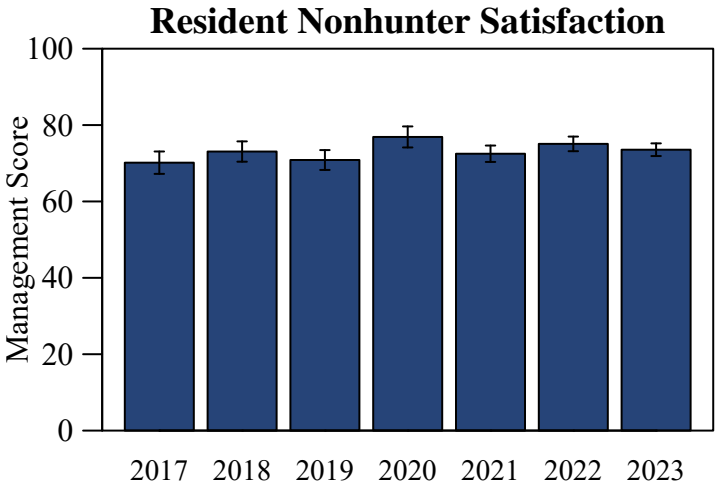

Figure 9. Nonhunters were asked to score the DNR's county deer management on a scale of 0 (poor) to 100 (excellent) for the county in DMU 6 where they live.

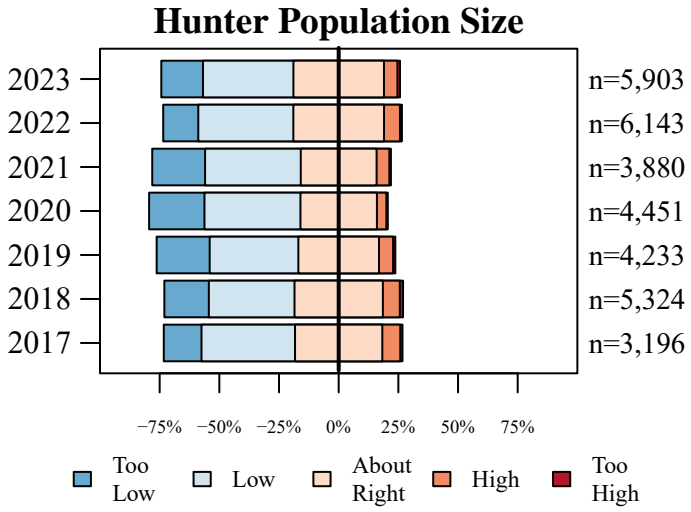

Figure 10. The current size of the deer population described by hunters in the county where they hunt in DMU 6.

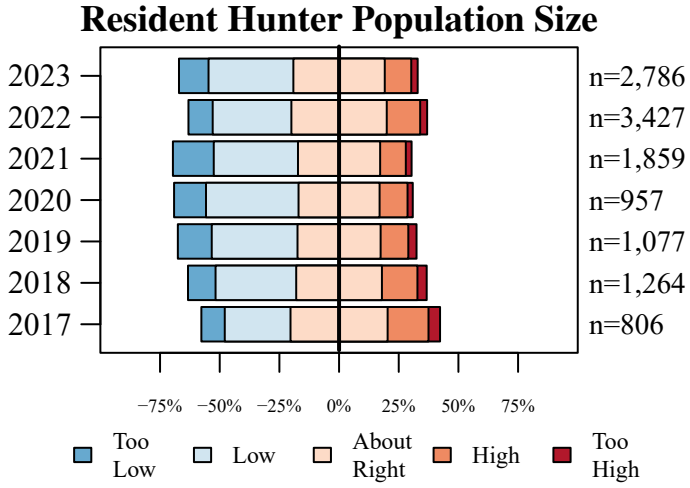

Figure 11. The current size of the deer population described by hunters in the county where they live in DMU 6.

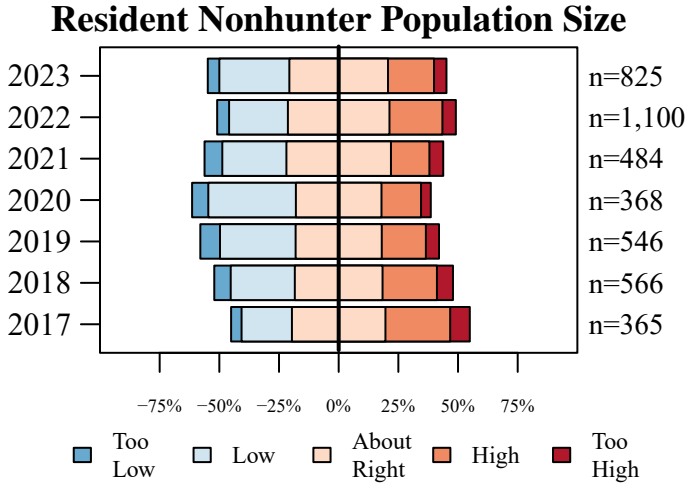

Figure 12. The current size of the deer population described by nonhunters in the county where they live in DMU 6.

DMU 6: South

5/23/2024

Deer Management Survey Results

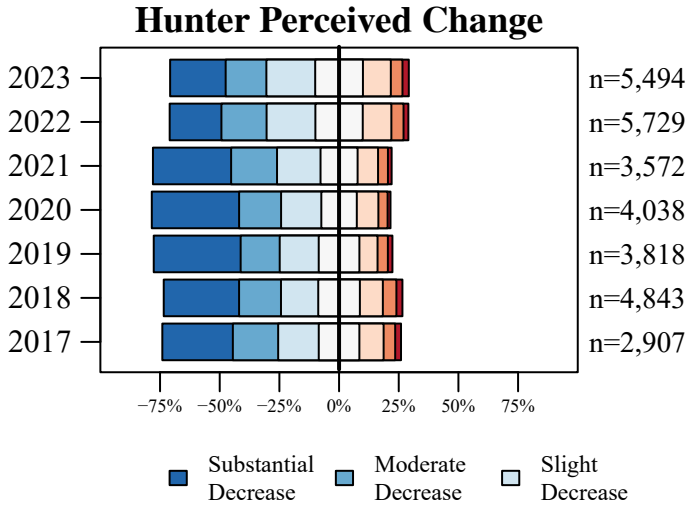

Figure 13. The number of deer seen compared to five years ago described by hunters in the county where they hunt in DMU 6.

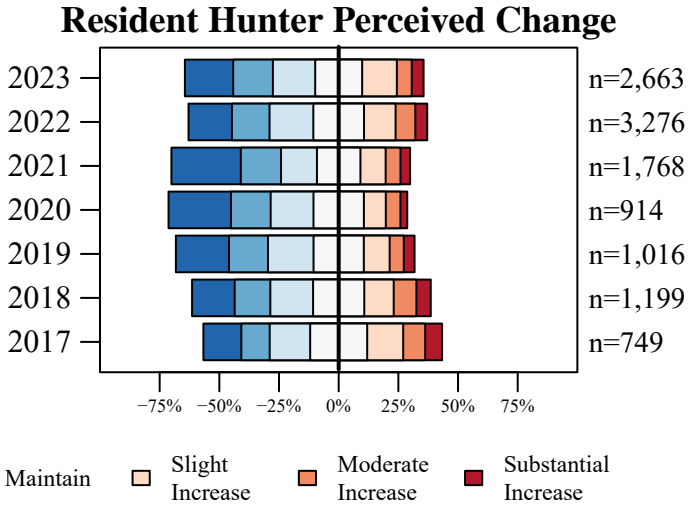

Figure 14. The number of deer seen compared to five years ago described by hunters in the county where they live in DMU 6.

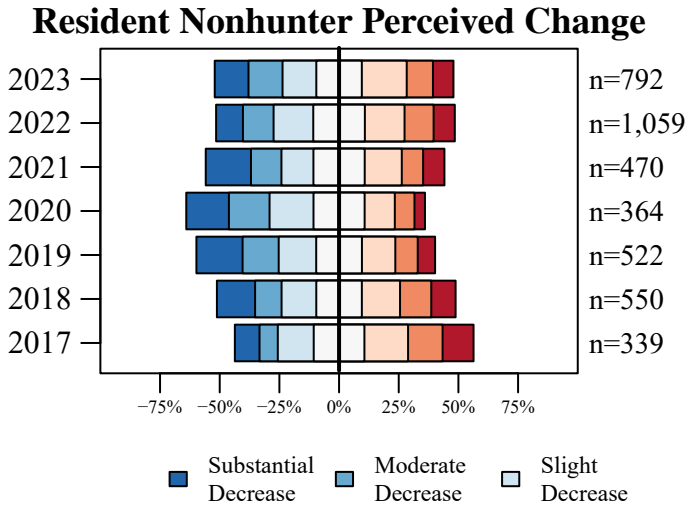

Figure 15. The number of deer seen compared to five years ago described by nonhunters in the county where they live in DMU 6.

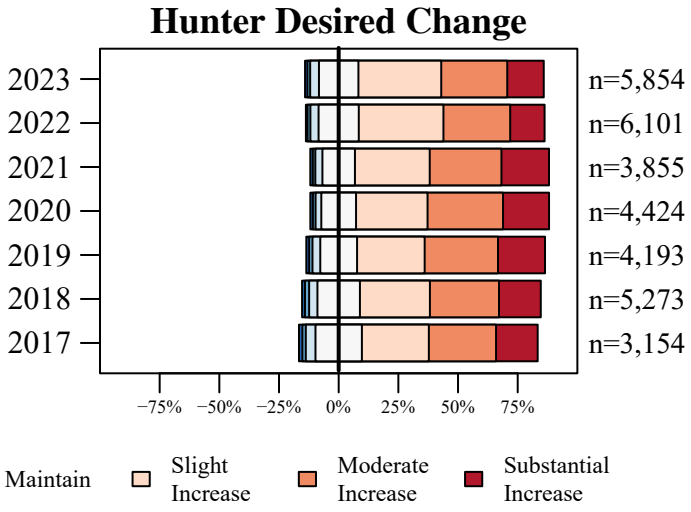

Figure 16. The desired change in the size of the deer population described by hunters in the county where they hunt in DMU 6.

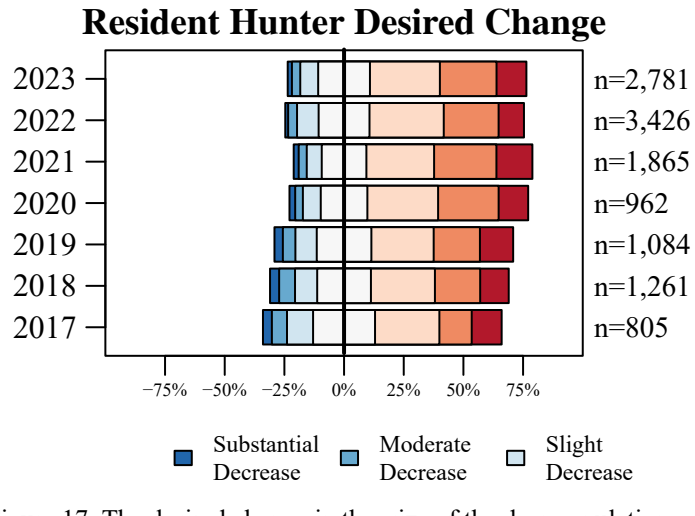

Figure 17. The desired change in the size of the deer population described by hunters in the county where they live in DMU 6.

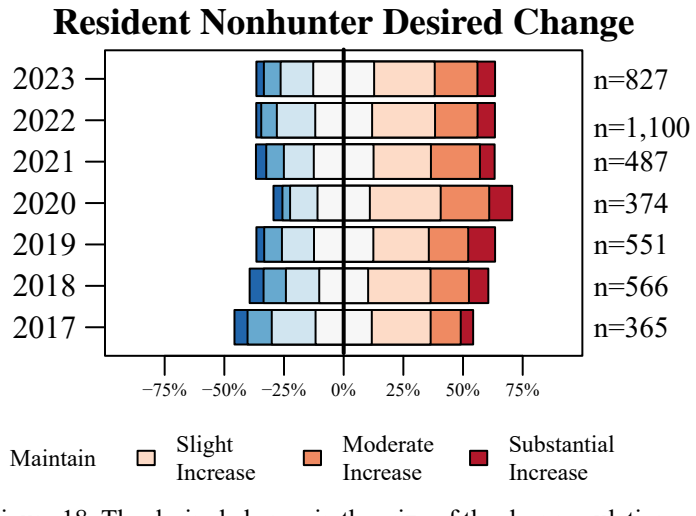

Figure 18. The desired change in the size of the deer population described by nonhunters in the county where they live in DMU 6.

DMU 6: South

5/23/2024

Deer Management Survey Results

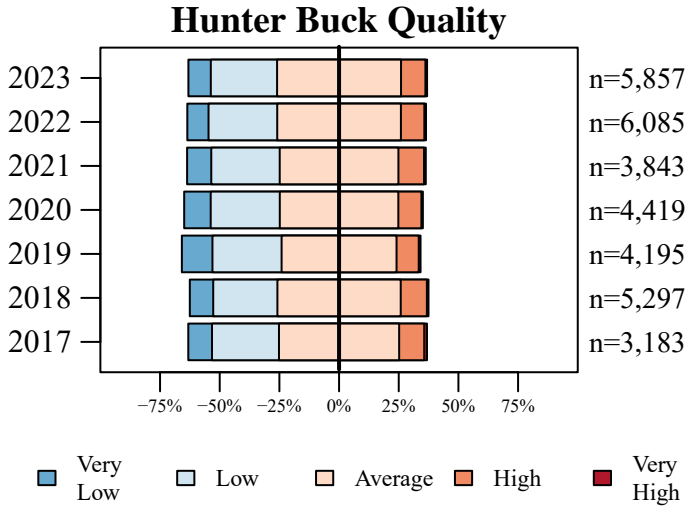

Figure 19. Hunters describe the quality of bucks in the county where they hunt in DMU 6.

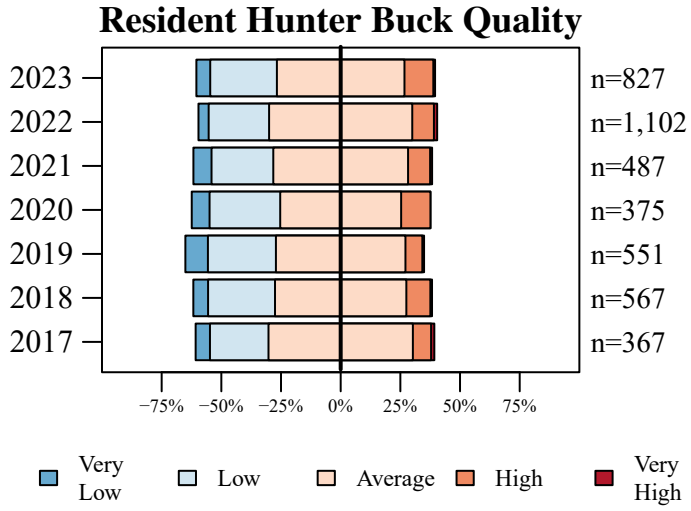

Figure 20. Hunters describe the quality of bucks in the county where they live in DMU 6.

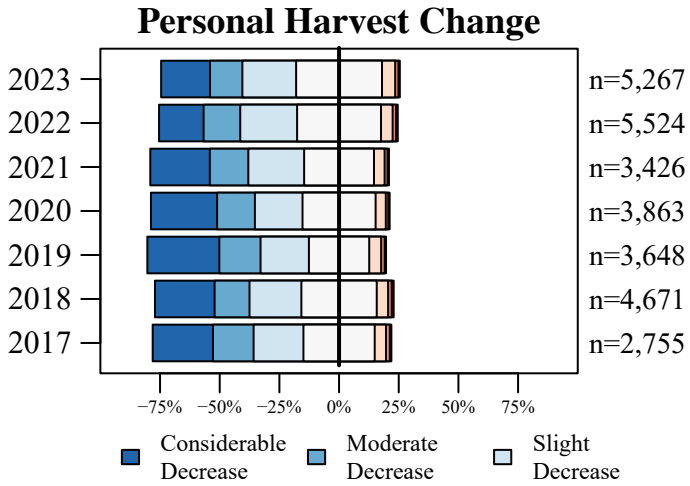

Figure 21. Opinion of hunters on how their personal number of harvested deer has changed over the last five years in a county in DMU 6.

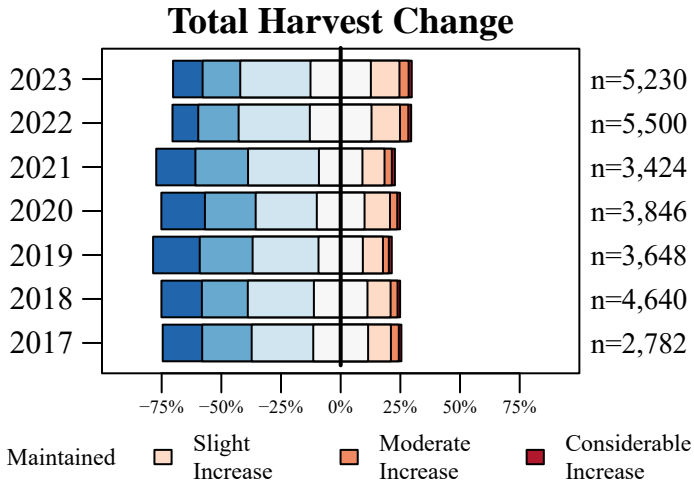

Figure 22. Opinion of hunters on how the total number of harvested deer has changed over the last five years in a county in DMU 6.

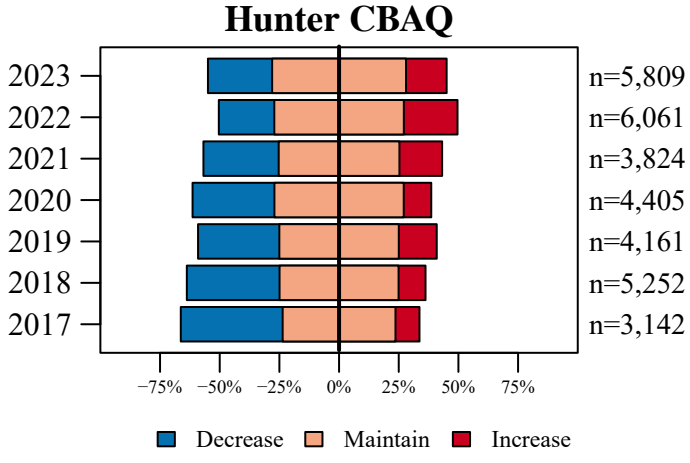

Figure 23. Opinion on how the County Bonus Antlerless Quota should change from hunters in the county where they hunt in DMU 6.

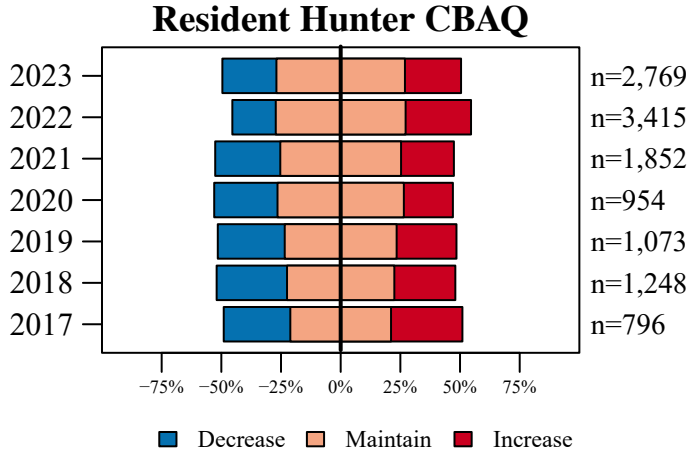

Figure 24. Opinion on how the County Bonus Antlerless Quota should change from hunters in the county where they live in DMU 6.

DMU 6: South

5/23/2024

Deer Management Survey Results

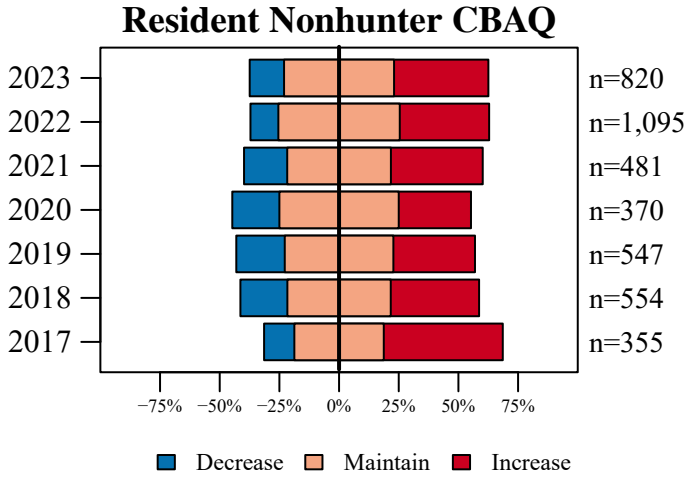

Figure 25. Opinion on how the County Bonus Antlerless Quota should change from nonhunters in the county where they live in DMU 6.

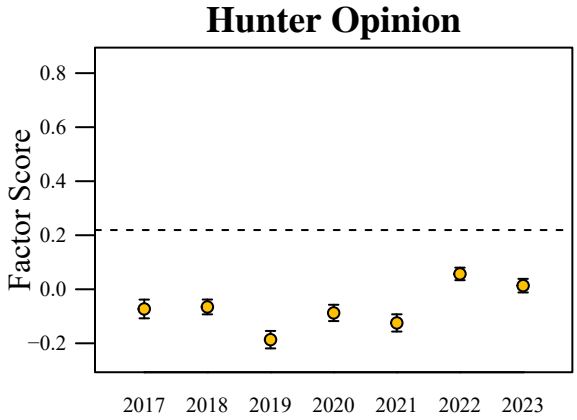

Figure 26. Hunter opinon scores over five years of the deer management survey. The score was aggregated using factor analysis of questions asked only to hunters. The dashed line represents the score if all questions are answered neutrally.

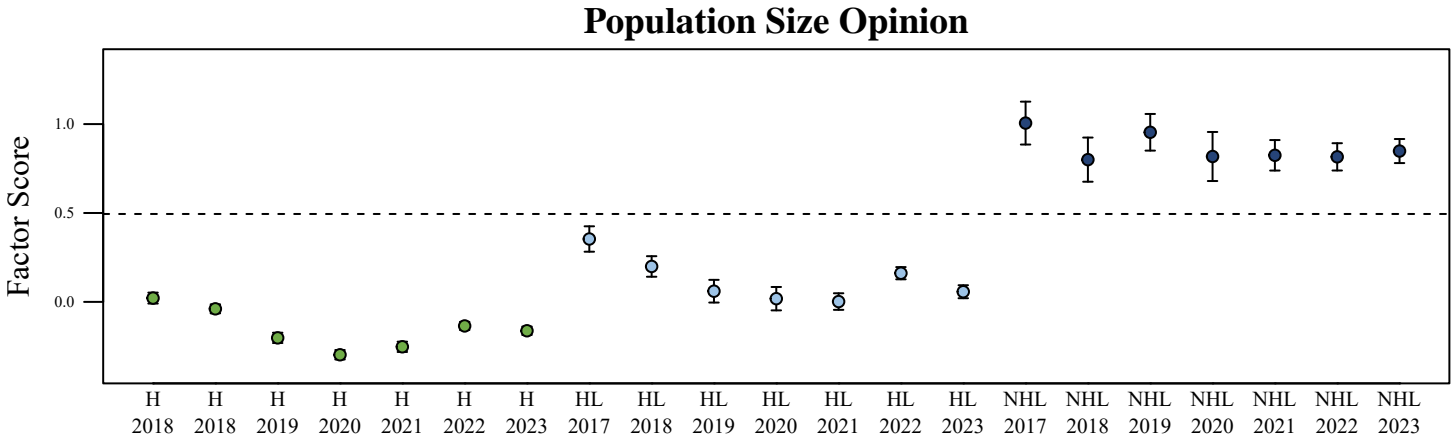

Figure 27. The opinion of nonhunters (NHL) and hunters in the county where they live (HL) and hunters in the county where they hunt (H) on deer population size. The score was aggregated using factor analysis of questions asked to all participants. The dashed line represents the score if all questions are answered neutrally.

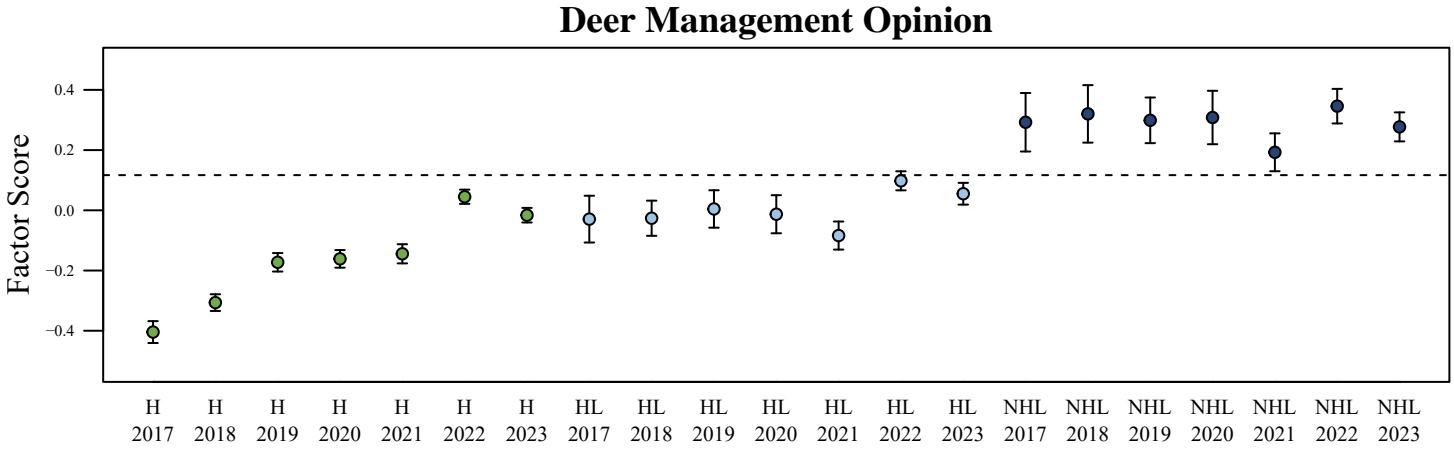

Figure 28. The opinion of nonhunters (NHL) and hunters in the county where they live (HL) and hunters in the county where they hunt (H) on deer management. The score was aggregated using factor analysis of questions asked to all participants. The dashed line represents the score if all questions are answered neutrally.

DMU 6: South

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Deer Management Survey Results

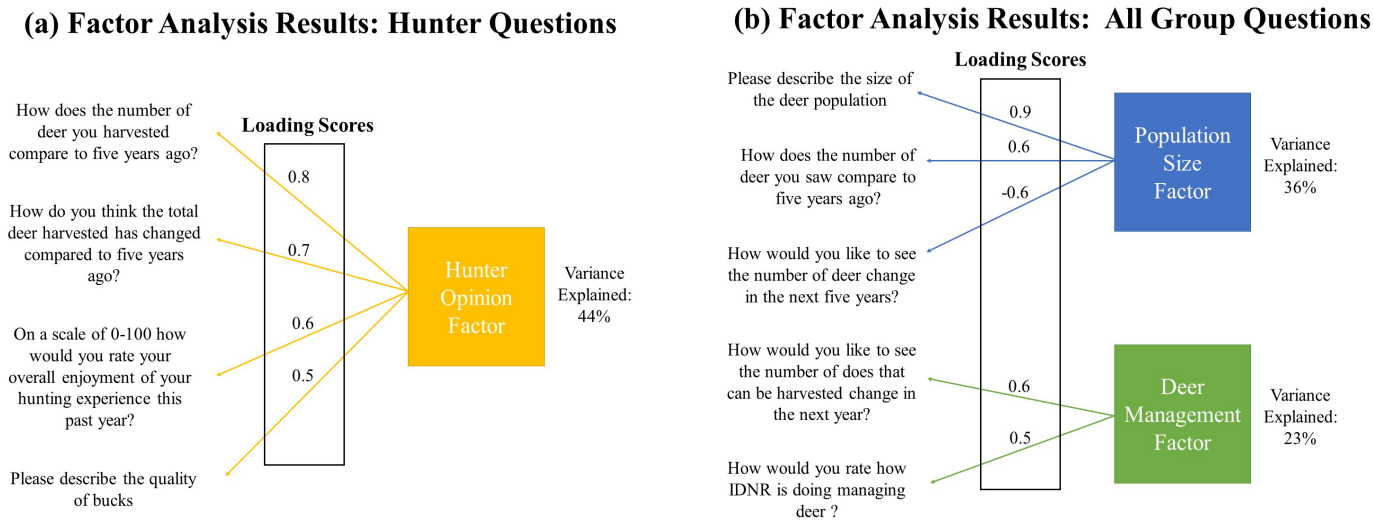

Figure 29. Results from two factor analyses used to develop the hunter opinion (a), population opinion (b), and management opinion (b) scores. Higher loading scores indicate a stronger correlation between the original question and the derived factor. These figures are included to help interpret Figure 26, Figure 27, and Figure 28.

DMU 7: Muscatatuck

5/23/2024

Total Square Miles: 1,410
Square Miles of Deer Habitat: 824
Percent Deer Habitat: 58

Table 1. Total harvest, buck harvest, and doe harvest (error < 1 percent). Damage permits are issued by DNR to landowners to control deer damage. Deer vehicle collisions (DVC) and miles traveled are reported by the Indiana Department of Transportation. Mean CBAQ is the average county bonus antlerless quota of all counties in the DMU. The trend in total harvest, buck harvest, doe harvest, and DVCs are in standard deviations (SD) and are equivalent to effect size. A change greater than 2 SD is considered both a large and statistically significant effect size.

Year	Total	Total Trend in SD	Buck Harvest	Buck Trend in SD	Buck Harvest per SQ MI Habitat	Doe Harvest	Doe Trend in SD	Doe Harvest per SQ MI Habitat	% Doe in Harvest	Damage Permit Deer Taken	DVC per Billion Miles Traveled	DVC Trend in SD	Mean CBAQ
2009	7,794		3,828		4.6	3,966		4.8	50.9		239.0		6.0
2010	7,970	1.5	3,890	1.4	4.7	4,080	1.7	5.0	51.2		256.3	0.6	6.0
2011	7,747	0.7	3,790	0.7	4.6	3,957	0.7	4.8	51.1		275.5	2.0	7.0
2012	8,797	1.9	3,948	0.9	4.8	4,849	3.0	5.9	55.1		248.7	-0.2	8.0
2013	8,185	0.5	3,895	0.6	4.7	4,290	0.4	5.2	52.4		272.8	1.4	7.0
2014	7,639	-1.1	3,643	-3.7	4.4	3,996	-0.6	4.8	52.3		275.4	1.1	7.0
2015	8,380	0.7	4,219	3.2	5.1	4,161	-0.2	5.0	49.7		315.3	4.0	7.0
2016	7,641	-1.1	4,040	0.7	4.9	3,601	-1.8	4.4	47.1	117	339.5	2.6	7.0
2017	7,323	-1.6	3,602	-1.6	4.4	3,721	-1.0	4.5	50.8	138	370.3	2.2	7.0
2018	6,878	-2.2	3,462	-1.6	4.2	3,416	-1.9	4.1	49.7	81	318.7	0.1	4.0
2019	6,841	-1.3	3,589	-0.6	4.4	3,252	-1.8	3.9	47.5	169	314.2	-0.3	2.0
2020	6,510	-1.4	3,351	-1.3	4.1	3,159	-1.4	3.8	48.5	87	307.6	-1.0	2.5
2021	6,577	-1.0	3,745	0.5	4.5	2,832	-2.6	3.4	43.1	65	382.3	2.1	2.0
2022	5,100	-5.4	2,876	-4.5	3.5	2,224	-3.2	2.7	43.6	101	322.3	-0.5	1.8
2023	4,856	-2.1	2,937	-1.4	3.6	1,919	-2.2	2.3	39.5	62	325.5	-0.1	2.0

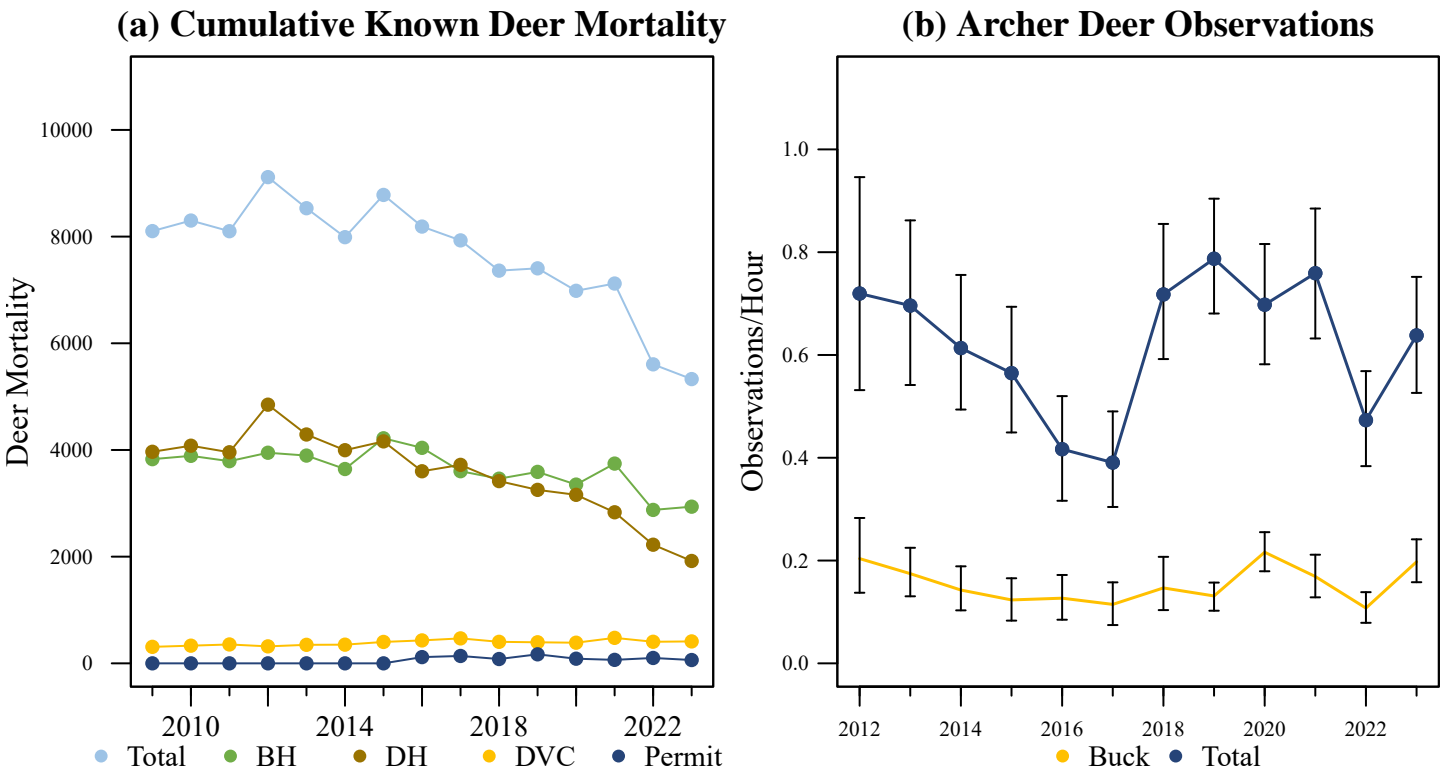

Figure 1. (a) The total known annual deer mortality based on buck harvests (BH), doe harvests (DH), deer vehicle collisions (DVC), and deer permit takes. (b) Total deer and buck observations per hour based on the Archer's Index.

DMU 7: Muscatatuck

5/23/2024

Total Square Miles: 1,410
Square Miles of Deer Habitat: 824
Percent Deer Habitat: 58

Table 2. Estimated number of antlered (A) and antlerless (AL) deer harvested per hunter. Estimated totals may not match exactly with total number of deer harvested. Reporting errors are examined and investigated as they are located; therefore, subsequent reports may contain corrected totals.

Year	Total Hunters	0 A	1 A	2 A	3 A	0 AL	1 AL	2 AL	3 AL	4 AL	5 AL	6 AL	7 AL	8 AL	9 AL	10 AL
2016	5,548	2,428	3,051	69	0	2,288	2,388	652	161	36	14	5	2	0	1	1
2017	5,280	2,566	2,699	15	0	2,014	2,367	638	159	61	25	11	2	2	1	0
2018	5,010	2,408	2,589	13	0	1,864	2,290	648	162	39	7	0	0	0	0	0
2019	5,230	2,415	2,802	11	2	2,041	2,474	626	71	18	0	0	0	0	0	0
2020	4,906	2,264	2,629	12	1	1,916	2,252	631	91	13	3	0	0	0	0	0
2021	5,186	2,141	3,034	11	0	2,303	2,289	558	30	5	0	1	0	0	0	0
2022	4,129	1,838	2,286	5	0	1,743	1,995	368	20	2	1	0	0	0	0	0
2023	3,999	1,434	2,547	18	0	2,058	1,629	296	12	4	0	0	0	0	0	0

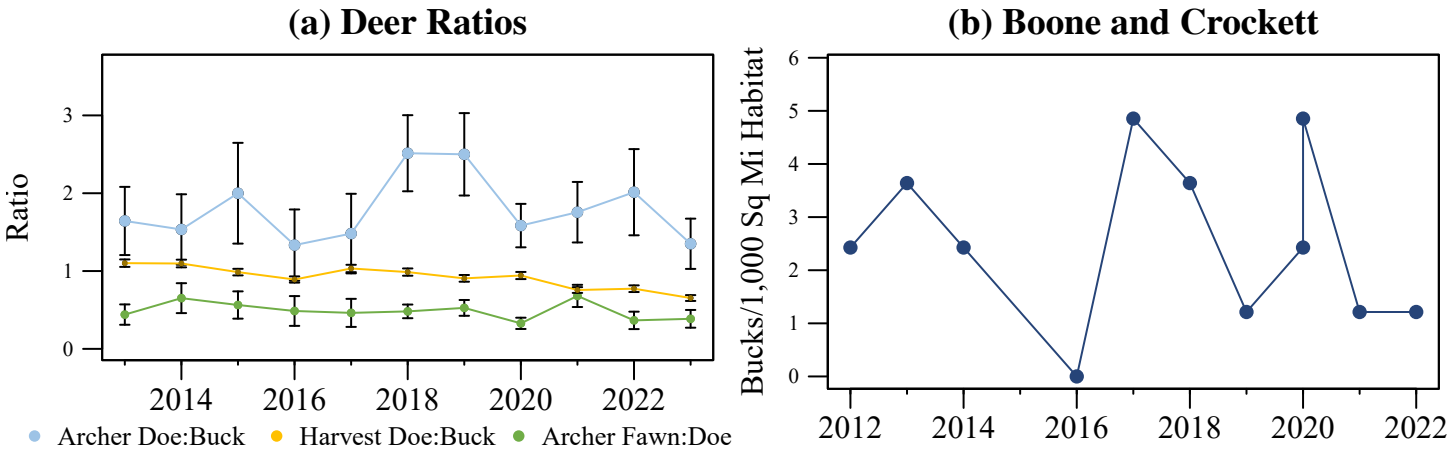

Figure 2. (a) Annual doe:buck ratios and fawn:doe ratios based on the Archer's Index and harvest records. (b) The number of Boone and Crockett bucks (minimum 160 score) per 1,000 square miles of deer habitat.

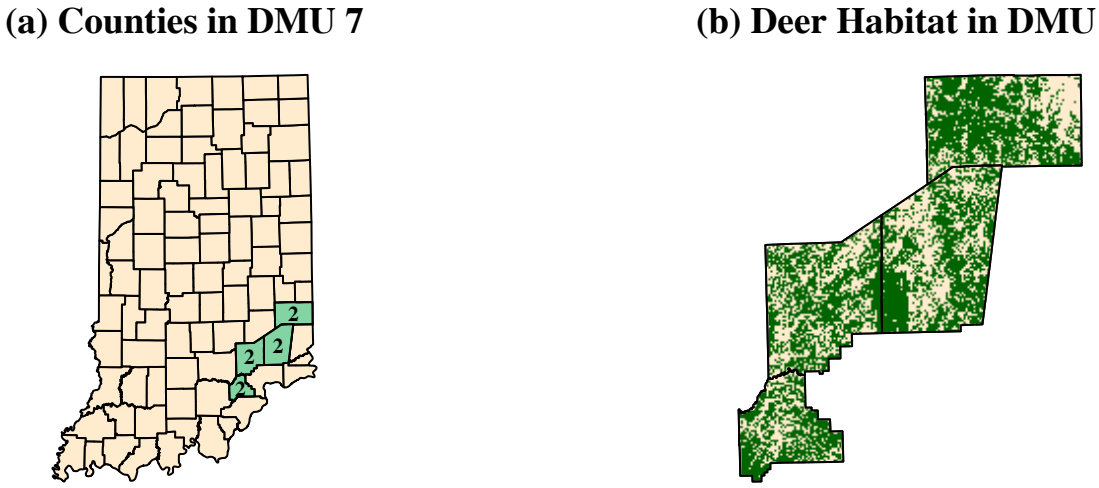

Figure 3. (a) Counties included in DMU 7 for summarizing harvest and deer management survey statistics. Labels are the 2023 county bonus antlerless quotas. (b) Green represents the land use types classified as deer habitat in DMU 7.

DMU 7: Muscatatuck

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Deer Management Survey Results

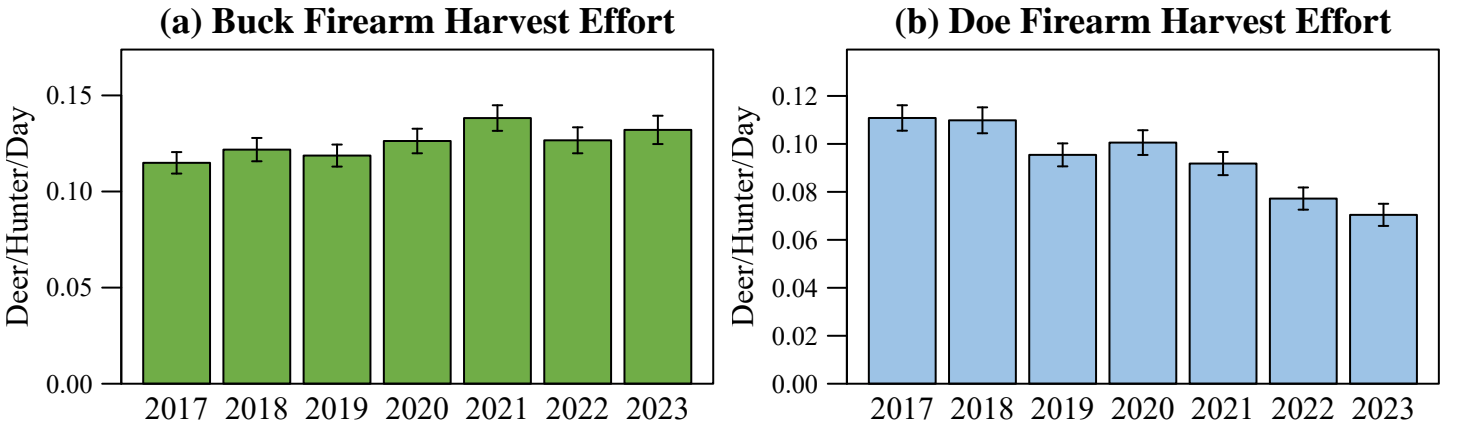

Figure 4. Firearm harvest effort is the number of bucks (a) and does (b) killed by firearms per hunter divided by the mean number of days hunted per hunter during the firearm season based on data reported in the deer management survey. Larger values (i.e taller bars) indicate less effort required to harvest a deer.

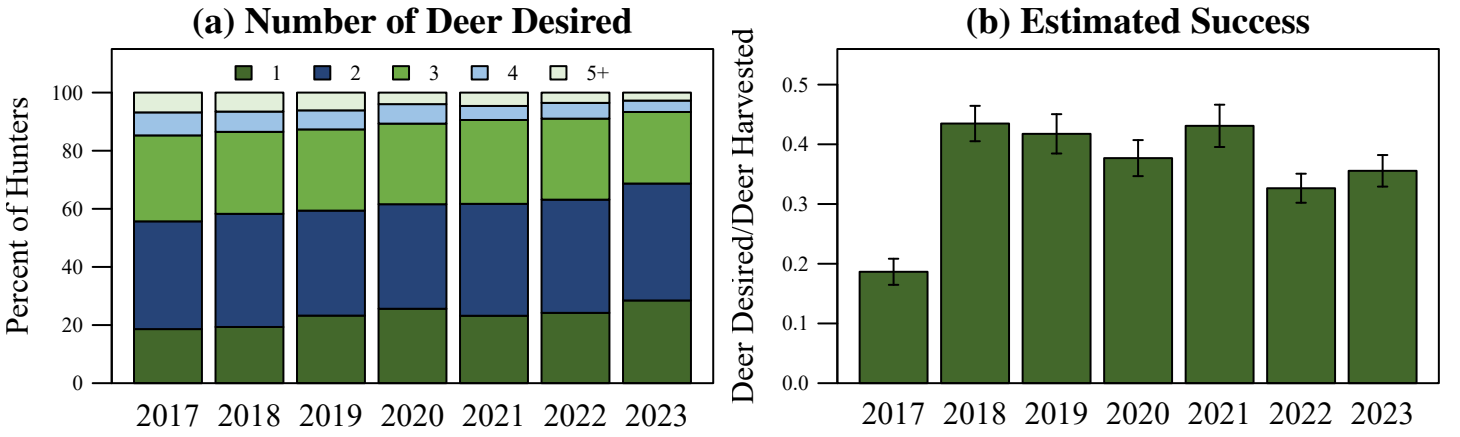

Figure 5. (a) The annual percent of hunters wishing to harvest each number of deer as reported in the deer management survey. (b) Success rate is estimated from the deer management survey as the Number of Harvested Deer/Number of Deer Desired (reported only; does not account for attempts that were not made). Larger values (i.e. taller bars) indicate greater success.

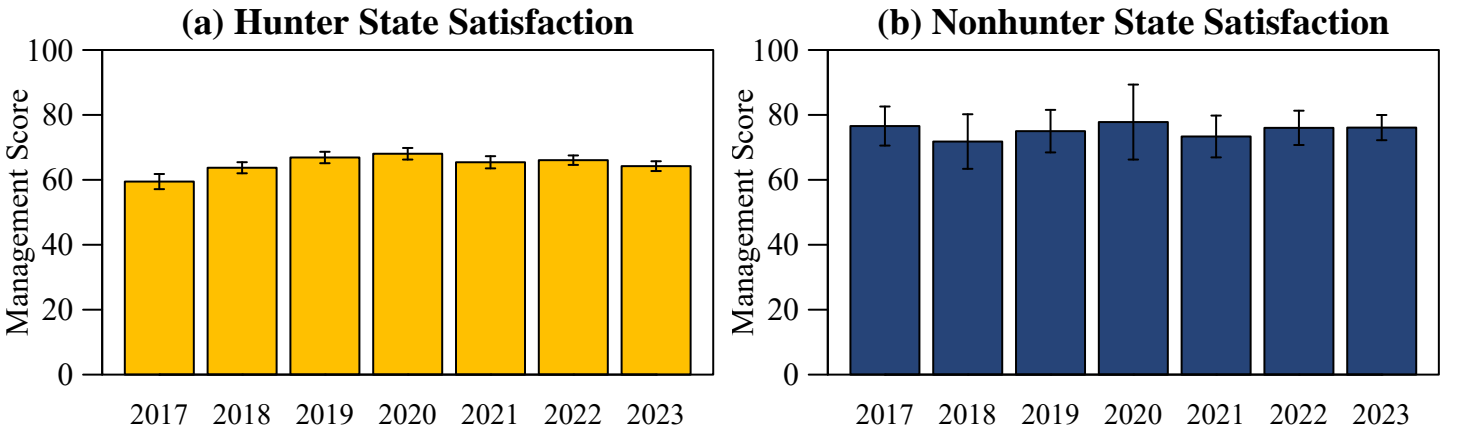

Figure 6. Hunters (a) and nonhunters (b) were asked to score the DNR's statewide deer management on a scale of 0 (poor) to 100 (excellent).

DMU 7: Muscatatuck

5/23/2024

Deer Management Survey Results

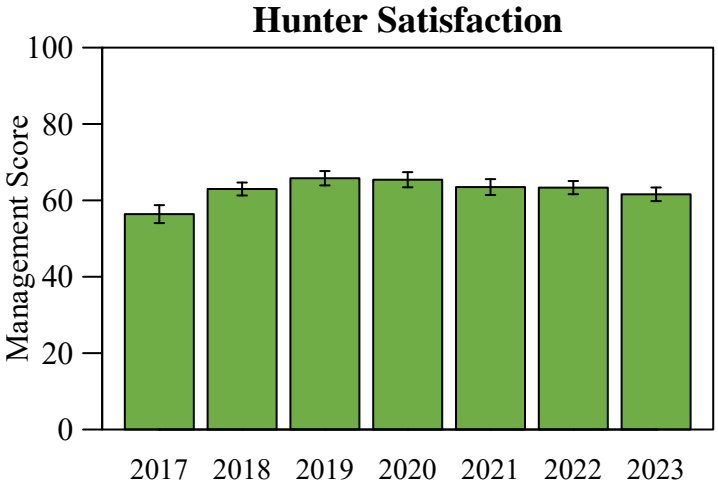

Figure 7. Hunters were asked to score the DNR's county deer management on a scale of 0 (poor) to 100 (excellent) for the county in DMU 7 where they hunt.

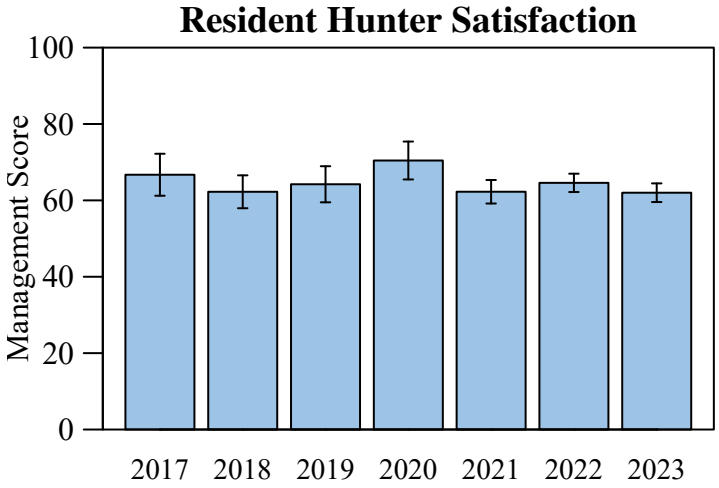

Figure 8. Hunters were asked to score the DNR's county deer management on a scale of 0 (poor) to 100 (excellent) for the county in DMU 7 where they live.

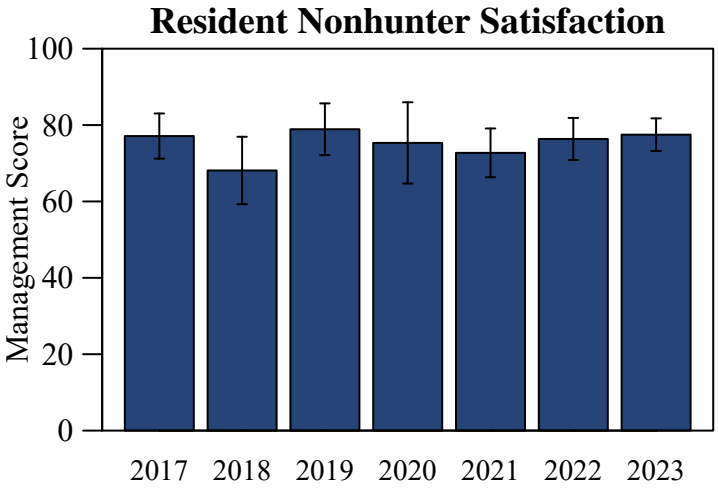

Figure 9. Nonhunters were asked to score the DNR's county deer management on a scale of 0 (poor) to 100 (excellent) for the county in DMU 7 where they live.

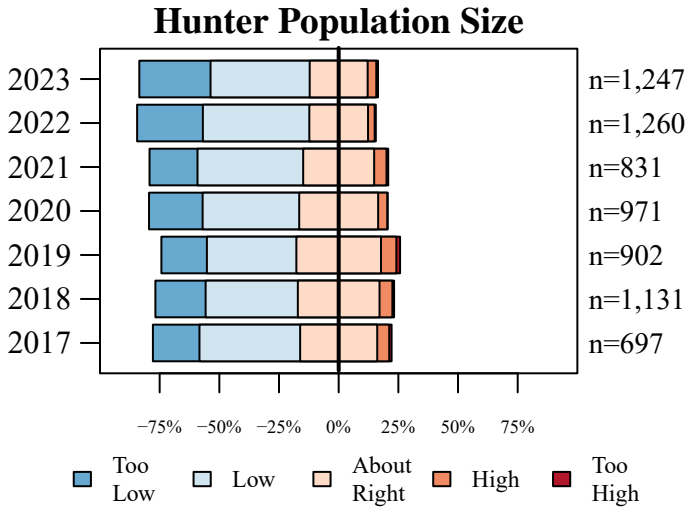

Figure 10. The current size of the deer population described by hunters in the county where they hunt in DMU 7.

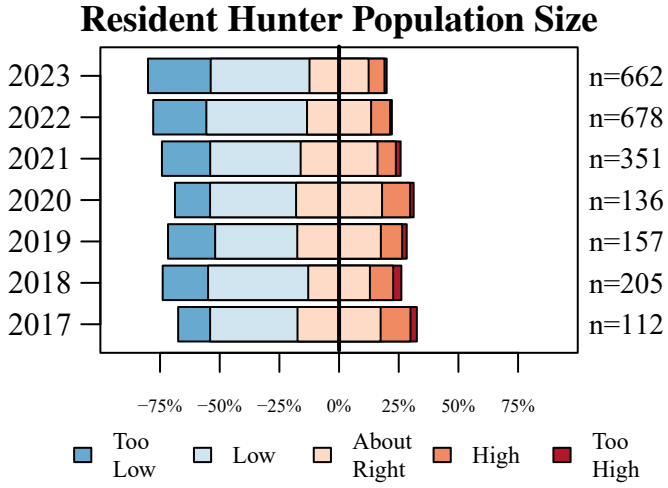

Figure 11. The current size of the deer population described by hunters in the county where they live in DMU 7.

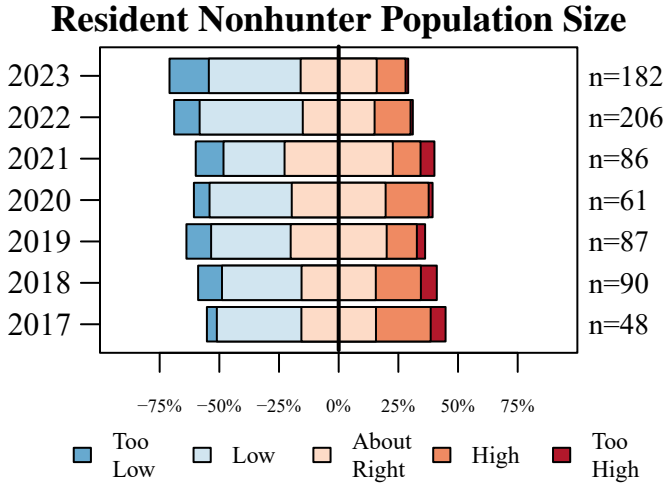

Figure 12. The current size of the deer population described by nonhunters in the county where they live in DMU 7.

DMU 7: Muscatatuck

5/23/2024

Deer Management Survey Results

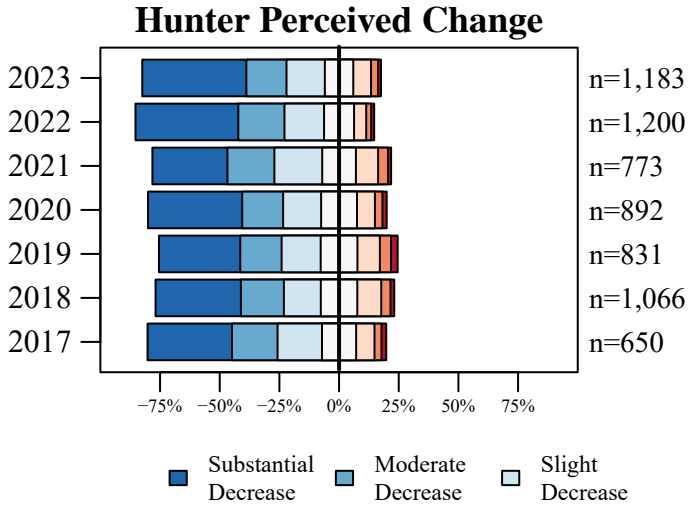

Figure 13. The number of deer seen compared to five years ago described by hunters in the county where they hunt in DMU 7.

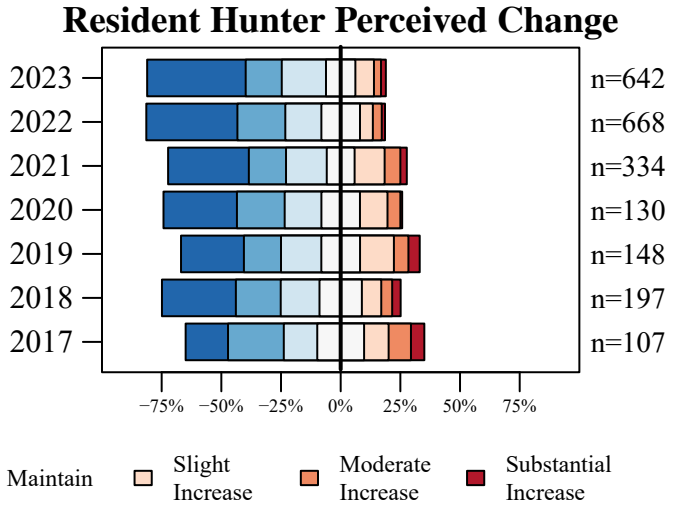

Figure 14. The number of deer seen compared to five years ago described by hunters in the county where they live in DMU 7.

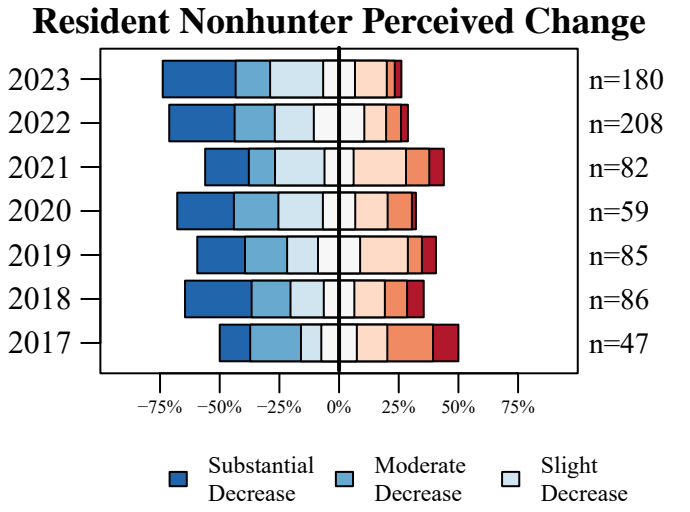

Figure 15. The number of deer seen compared to five years ago described by nonhunters in the county where they live in DMU 7.

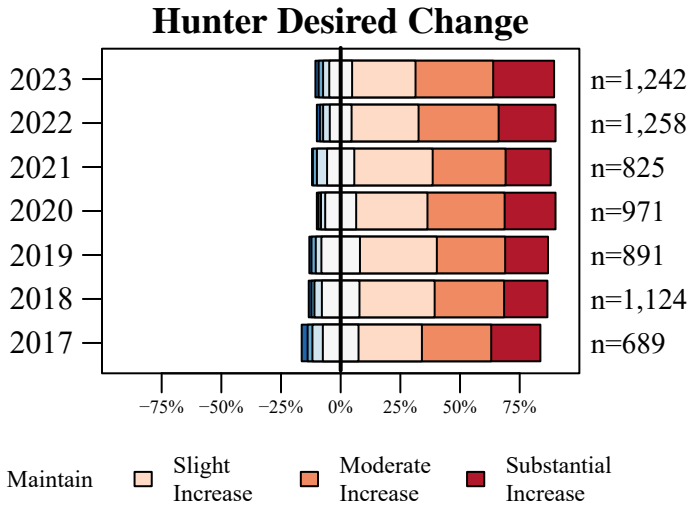

Figure 16. The desired change in the size of the deer population described by hunters in the county where they hunt in DMU 7.

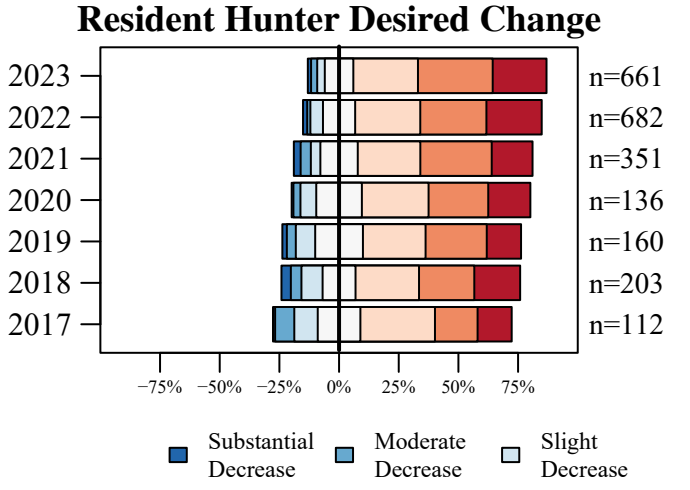

Figure 17. The desired change in the size of the deer population described by hunters in the county where they live in DMU 7.

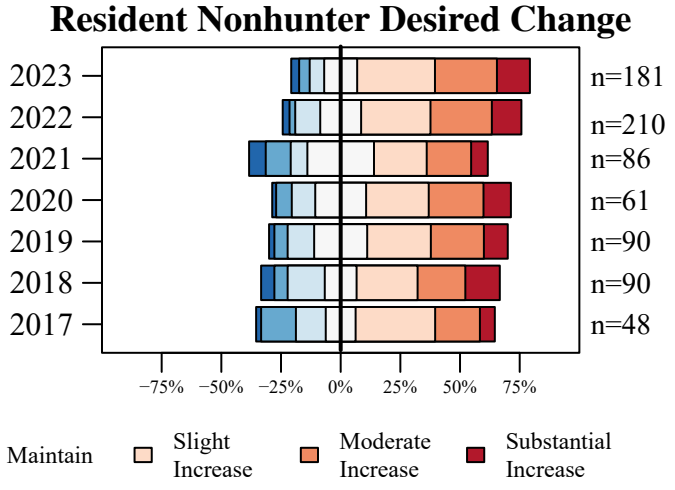

Figure 18. The desired change in the size of the deer population described by nonhunters in the county where they live in DMU 7.

DMU 7: Muscatatuck

5/23/2024

Deer Management Survey Results

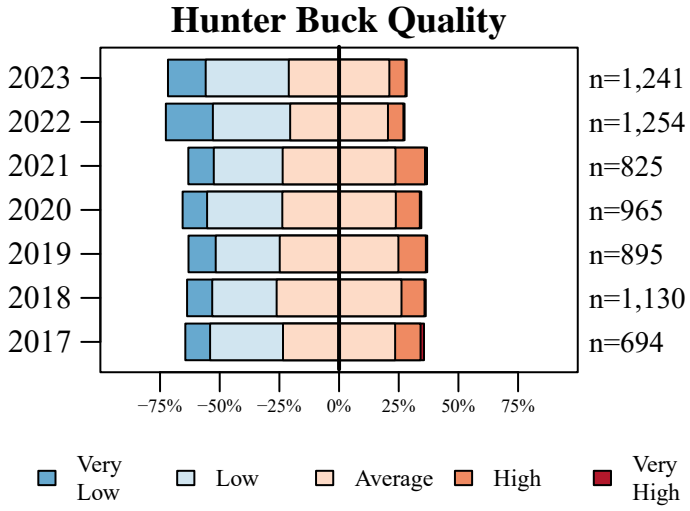

Figure 19. Hunters describe the quality of bucks in the county where they hunt in DMU 7.

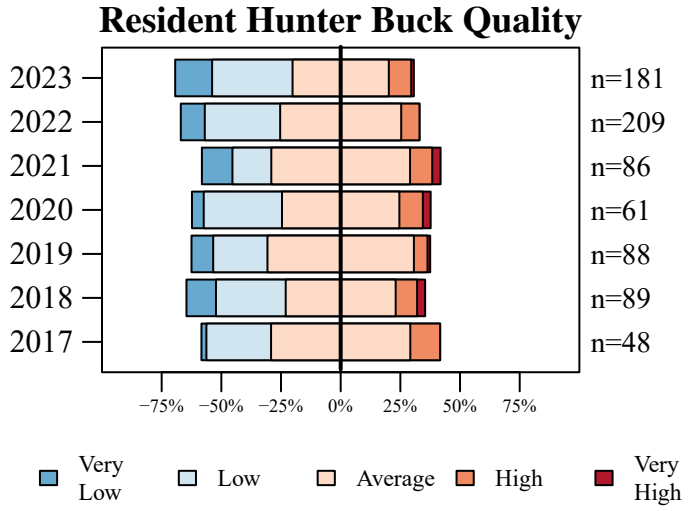

Figure 20. Hunters describe the quality of bucks in the county where they live in DMU 7.

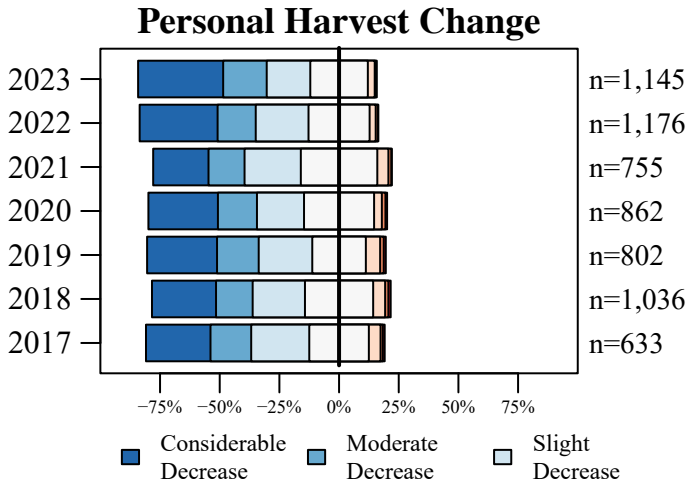

Figure 21. Opinion of hunters on how their personal number of harvested deer has changed over the last five years in a county in DMU 7.

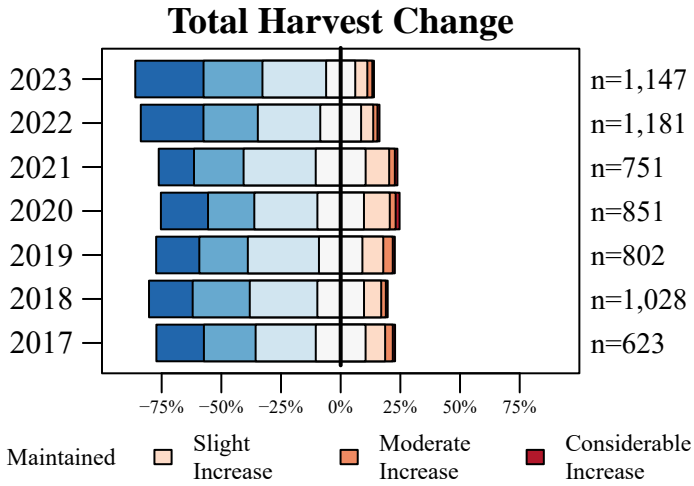

Figure 22. Opinion of hunters on how the total number of harvested deer has changed over the last five years in a county in DMU 7.

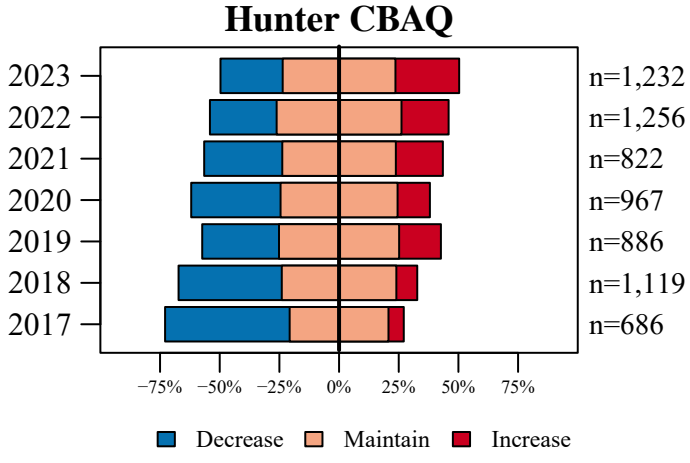

Figure 23. Opinion on how the County Bonus Antlerless Quota should change from hunters in the county where they hunt in DMU 7.

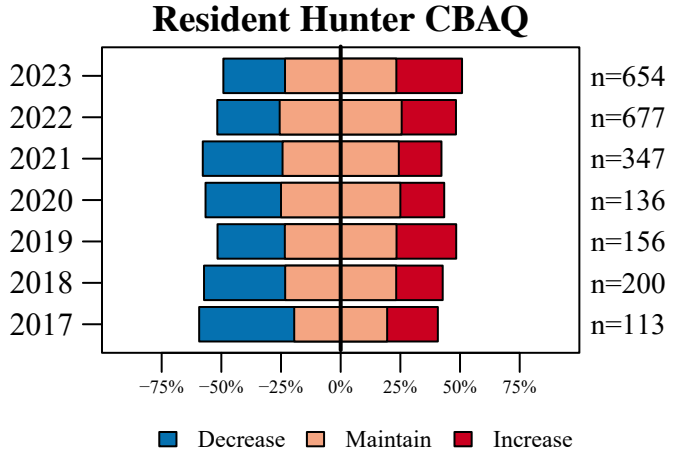

Figure 24. Opinion on how the County Bonus Antlerless Quota should change from hunters in the county where they live in DMU 7.

DMU 7: Muscatatuck

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Deer Management Survey Results

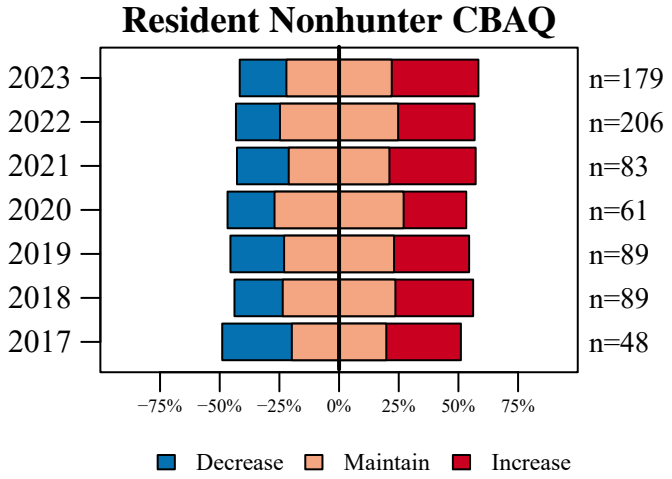

Figure 25. Opinion on how the County Bonus Antlerless Quota should change from nonhunters in the county where they live in DMU 7.

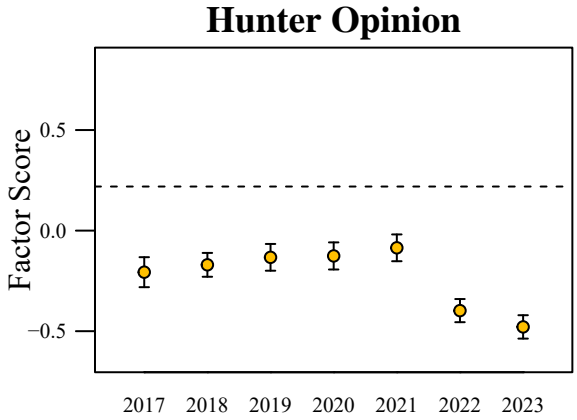

Figure 26. Hunter opinon scores over five years of the deer management survey. The score was aggregated using factor analysis of questions asked only to hunters. The dashed line represents the score if all questions are answered neutrally.

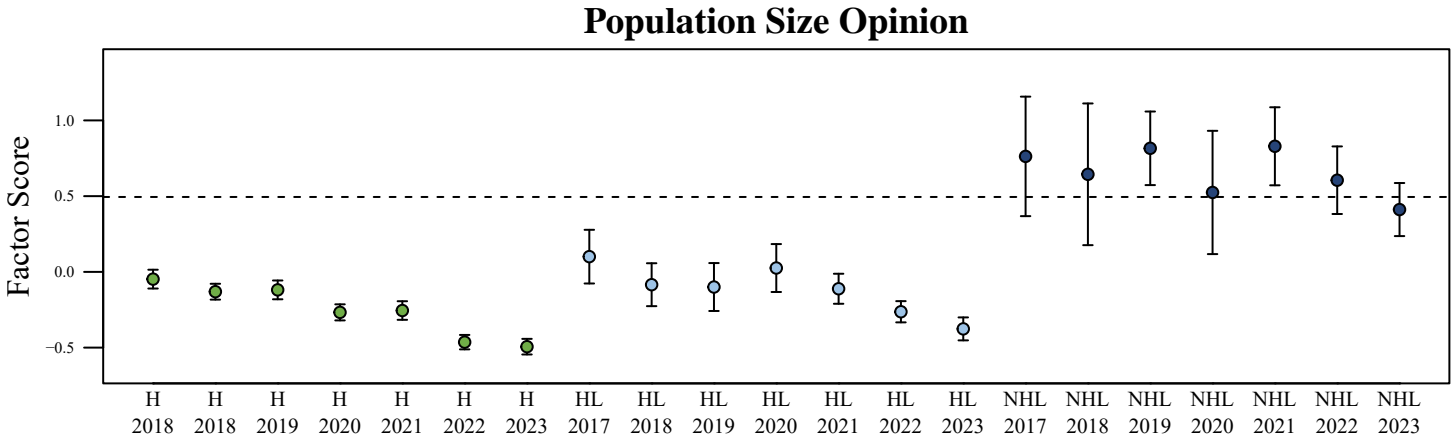

Figure 27. The opinion of nonhunters (NHL) and hunters in the county where they live (HL) and hunters in the county where they hunt (H) on deer population size. The score was aggregated using factor analysis of questions asked to all participants. The dashed line represents the score if all questions are answered neutrally.

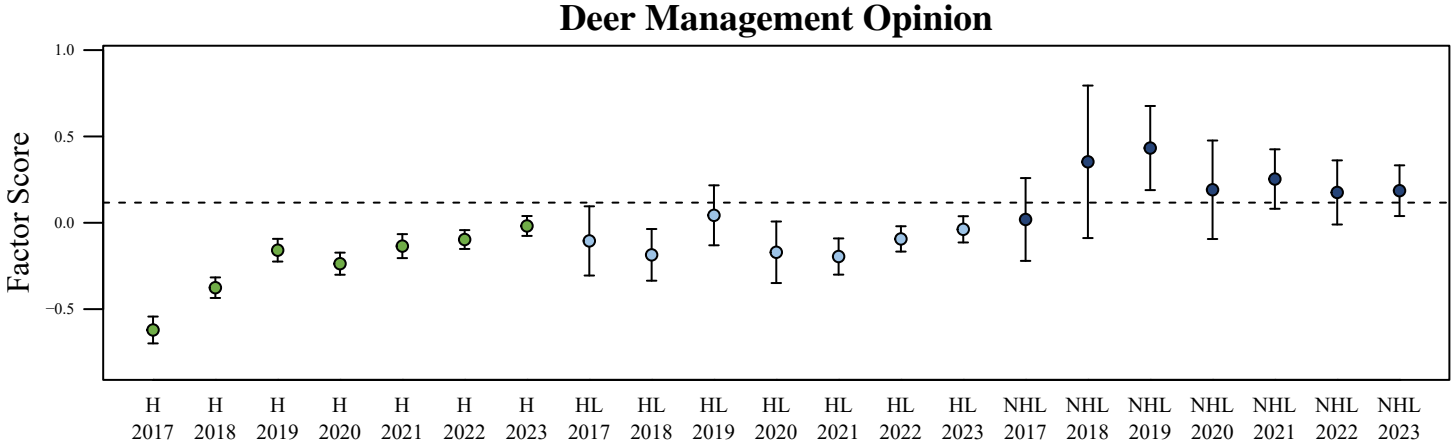

Figure 28. The opinion of nonhunters (NHL) and hunters in the county where they live (HL) and hunters in the county where they hunt (H) on deer management. The score was aggregated using factor analysis of questions asked to all participants. The dashed line represents the score if all questions are answered neutrally.

DMU 7: Muscatatuck

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Deer Management Survey Results

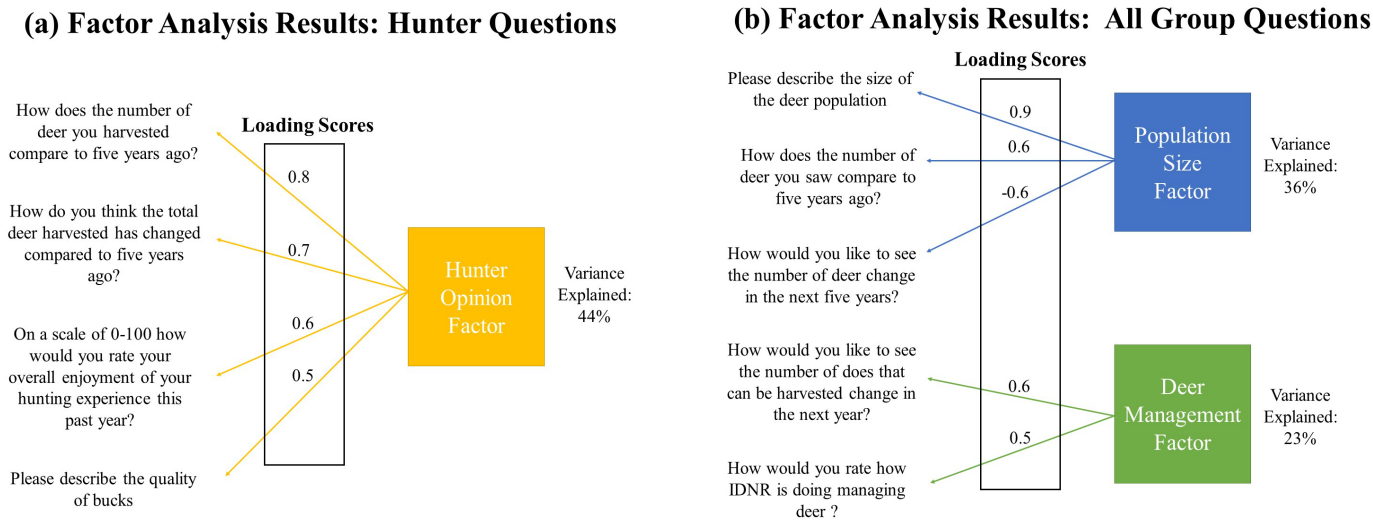


Figure 29. Results from two factor analyses used to develop the hunter opinion (a), population opinion (b), and management opinion (b) scores. Higher loading scores indicate a stronger correlation between the original question and the derived factor. These figures are included to help interpret Figure 26, Figure 27, and Figure 28.

DMU 8: Dearborn

5/23/2024

Total Square Miles: 618
Square Miles of Deer Habitat: 504
Percent Deer Habitat: 82

Table 1. Total harvest, buck harvest, and doe harvest (error < 1 percent). Damage permits are issued by DNR to landowners to control deer damage. Deer vehicle collisions (DVC) and miles traveled are reported by the Indiana Department of Transportation. Mean CBAQ is the average county bonus antlerless quota of all counties in the DMU. The trend in total harvest, buck harvest, doe harvest, and DVCs are in standard deviations (SD) and are equivalent to effect size. A change greater than 2 SD is considered both a large and statistically significant effect size.

Year	Total	Total Trend in SD	Buck Harvest	Buck Trend in SD	Buck Harvest per SQ MI Habitat	Doe Harvest	Doe Trend in SD	Doe Harvest per SQ MI Habitat	% Doe in Harvest	Damage Permit Deer Taken	DVC per Billion Miles Traveled	DVC Trend in SD	Mean CBAQ
2009	7,264		3,444		6.8	3,820		7.6	52.6		567.6		8.0
2010	7,333	1.6	3,403	1.3	6.8	3,930	1.9	7.8	53.6		614.9	0.3	8.0
2011	7,323	1.0	3,353	0.8	6.7	3,970	1.4	7.9	54.2		511.7	-1.7	8.0
2012	7,849	2.1	3,333	0.5	6.6	4,516	5.2	9.0	57.5		486.7	-1.5	8.0
2013	6,226	-2.0	2,789	-1.8	5.5	3,437	-1.6	6.8	55.2		512.5	-0.7	8.0
2014	6,077	-1.9	2,733	-2.0	5.4	3,344	-1.5	6.6	55.0		462.9	-1.5	6.7
2015	6,023	-1.2	3,108	0.0	6.2	2,915	-2.0	5.8	48.4		540.3	0.4	5.3
2016	5,514	-1.4	2,965	-0.3	5.9	2,549	-1.8	5.1	46.2	175	424.9	-2.7	4.0
2017	5,205	-1.3	2,537	-1.8	5.0	2,668	-0.9	5.3	51.3	130	438.6	-1.1	4.0
2018	4,684	-2.6	2,353	-2.2	4.7	2,331	-1.6	4.6	49.8	174	415.6	-1.2	3.3
2019	4,733	-1.3	2,586	-0.5	5.1	2,147	-1.6	4.3	45.4	127	499.3	0.9	2.0
2020	4,921	-0.6	2,549	-0.5	5.1	2,372	-0.5	4.7	48.2	107	409.6	-1.0	2.0
2021	4,452	-1.6	2,478	-0.5	4.9	1,974	-2.2	3.9	44.3	102	429.3	-0.2	2.0
2022	4,046	-2.7	2,200	-3.3	4.4	1,846	-1.7	3.7	45.6	130	364.5	-2.1	2.0
2023	3,629	-2.8	2,020	-2.6	4.0	1,609	-2.3	3.2	44.3	80	367.7	-1.1	1.3

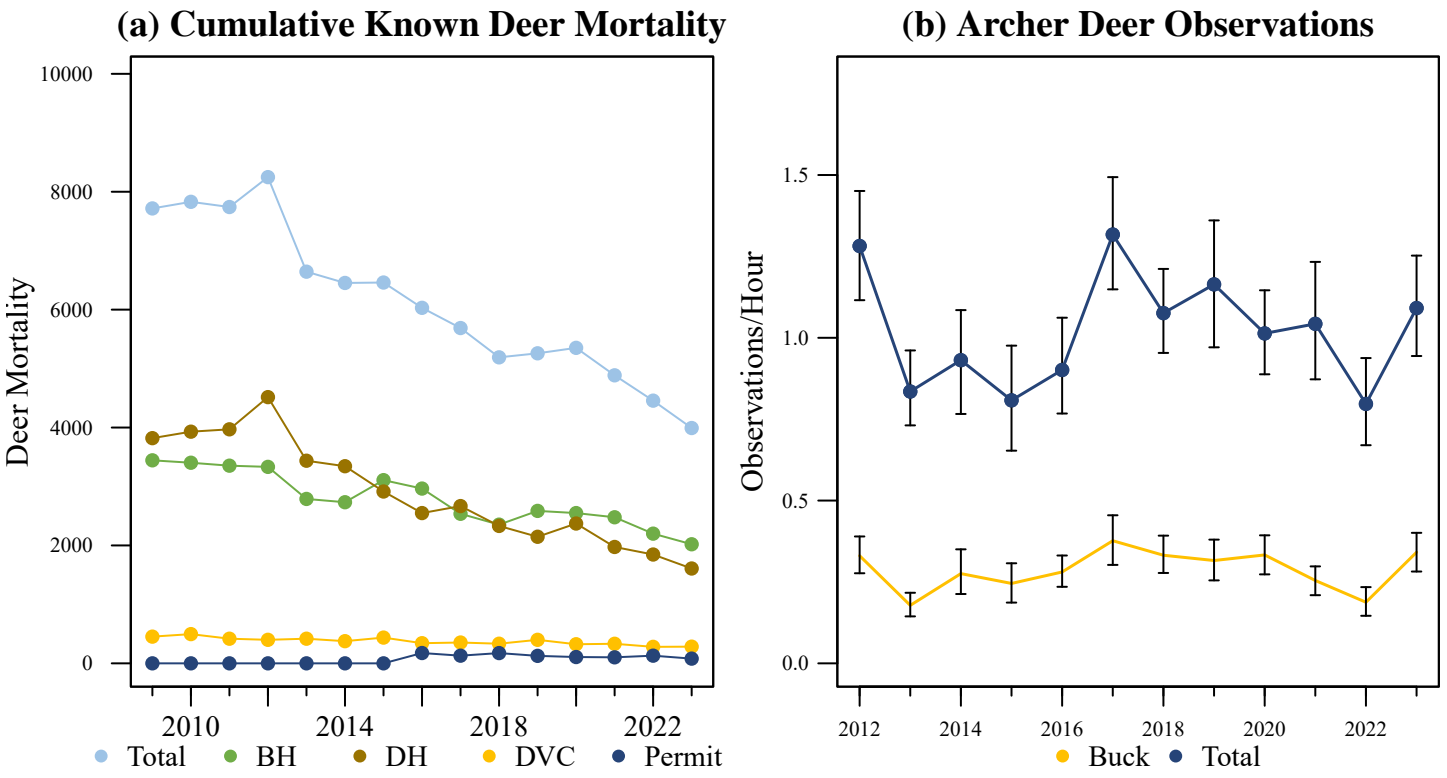


Figure 1. (a) The total known annual deer mortality based on buck harvests (BH), doe harvests (DH), deer vehicle collisions (DVC), and deer permit takes. (b) Total deer and buck observations per hour based on the Archer's Index.

DMU 8: Dearborn

5/23/2024

Total Square Miles: 618
Square Miles of Deer Habitat: 504
Percent Deer Habitat: 82

Table 2. Estimated number of antlered (A) and antlerless (AL) deer harvested per hunter. Estimated totals may not match exactly with total number of deer harvested. Reporting errors are examined and investigated as they are located; therefore, subsequent reports may contain corrected totals.

Year	Total Hunters	0 A	1 A	2 A	3 A	0 AL	1 AL	2 AL	3 AL	4 AL	5 AL	6 AL	7 AL	8 AL	9 AL	10 AL
2016	4,164	1,739	2,389	36	0	1,847	1,740	452	94	29	1	1	0	0	0	0
2017	3,772	1,787	1,979	6	0	1,467	1,634	486	141	37	5	2	0	0	0	0
2018	3,425	1,550	1,868	7	0	1,354	1,514	421	107	24	4	0	0	0	1	0
2019	3,619	1,459	2,151	9	0	1,595	1,560	412	34	14	3	0	1	0	0	0
2020	3,710	1,594	2,098	18	0	1,543	1,646	441	66	10	3	1	0	0	0	0
2021	3,454	1,327	2,108	19	0	1,592	1,468	358	28	4	2	2	0	0	0	0
2022	3,093	1,257	1,826	10	0	1,376	1,300	372	32	7	5	0	1	0	0	0
2023	2,942	1,195	1,740	7	0	1,363	1,326	227	16	5	3	2	0	0	0	0

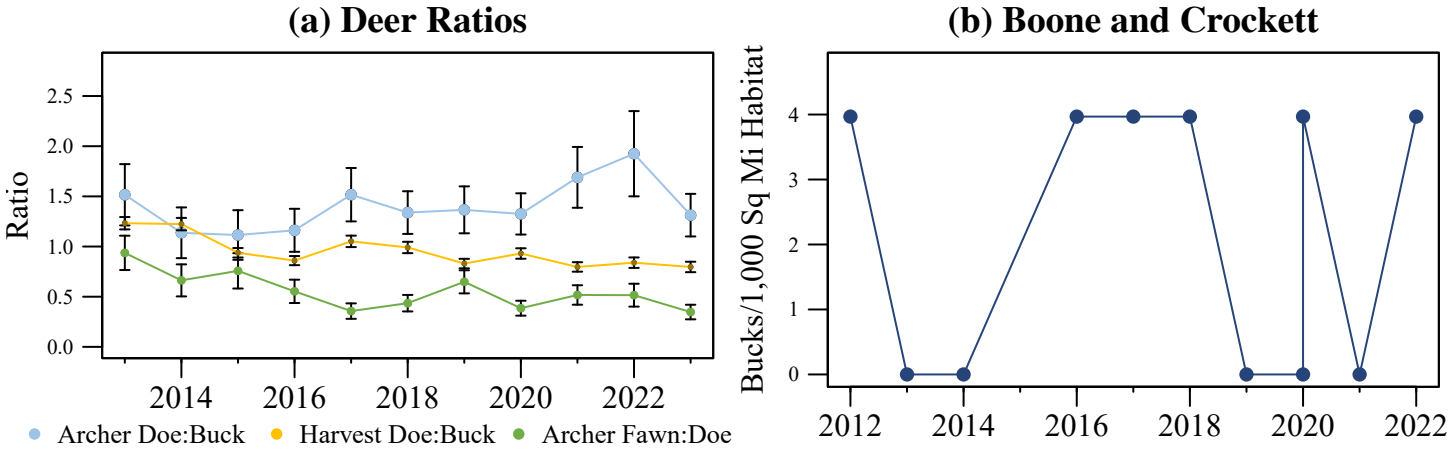
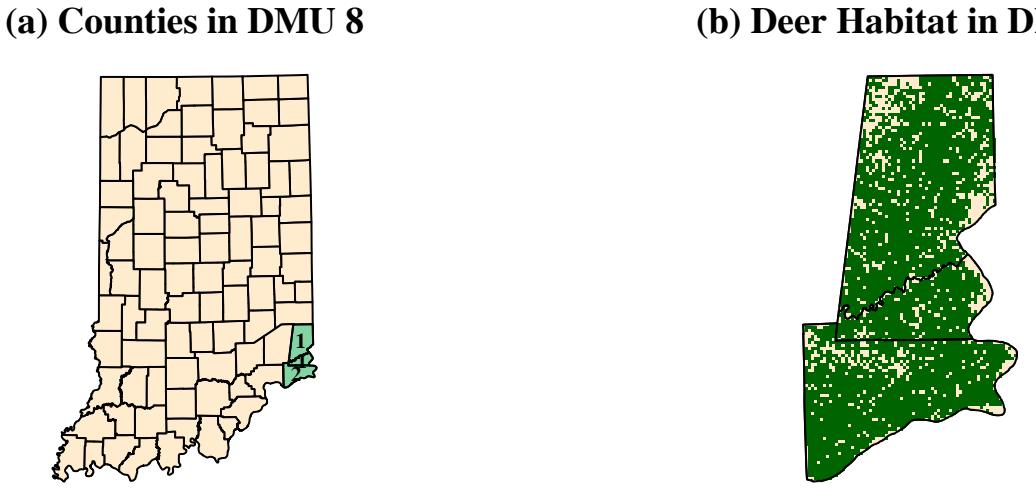


Figure 2. (a) Annual doe:buck ratios and fawn:doe ratios based on the Archer's Index and harvest records. (b) The number of Boone and Crockett bucks (minimum 160 score) per 1,000 square miles of deer habitat.



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DMU 8: Dearborn

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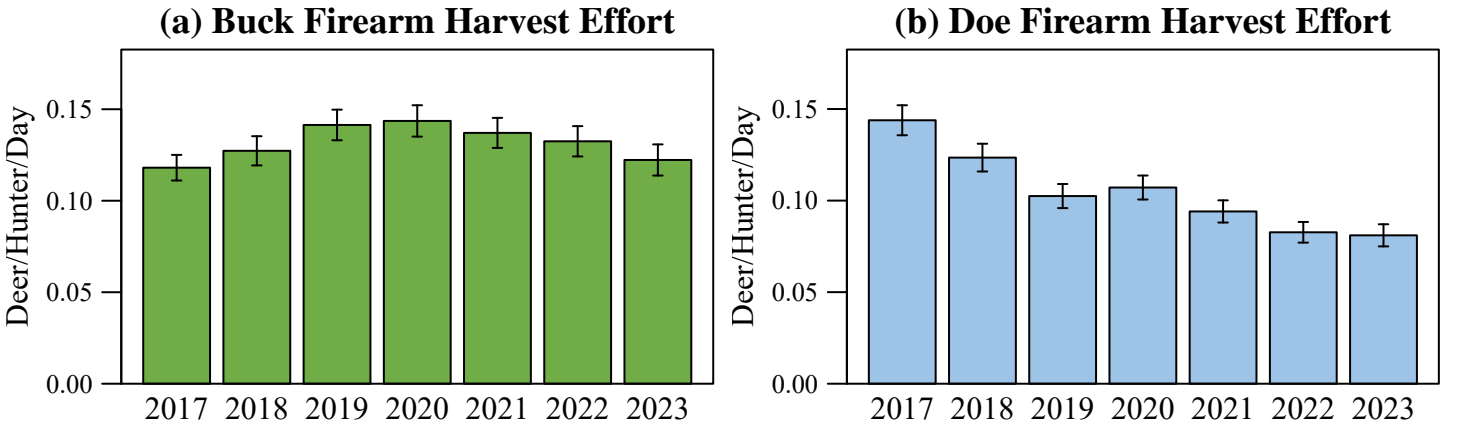

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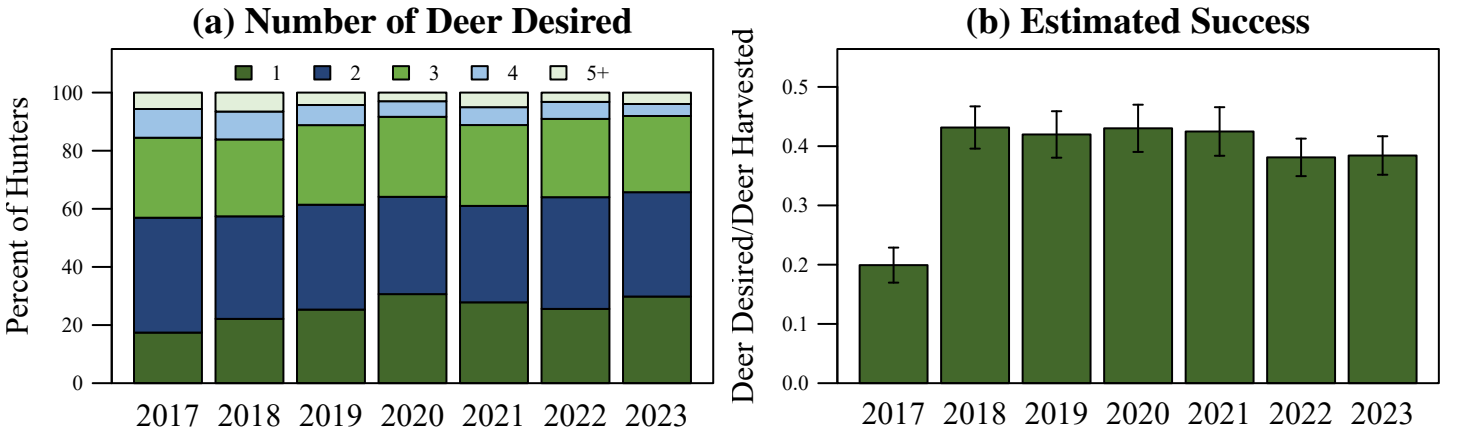

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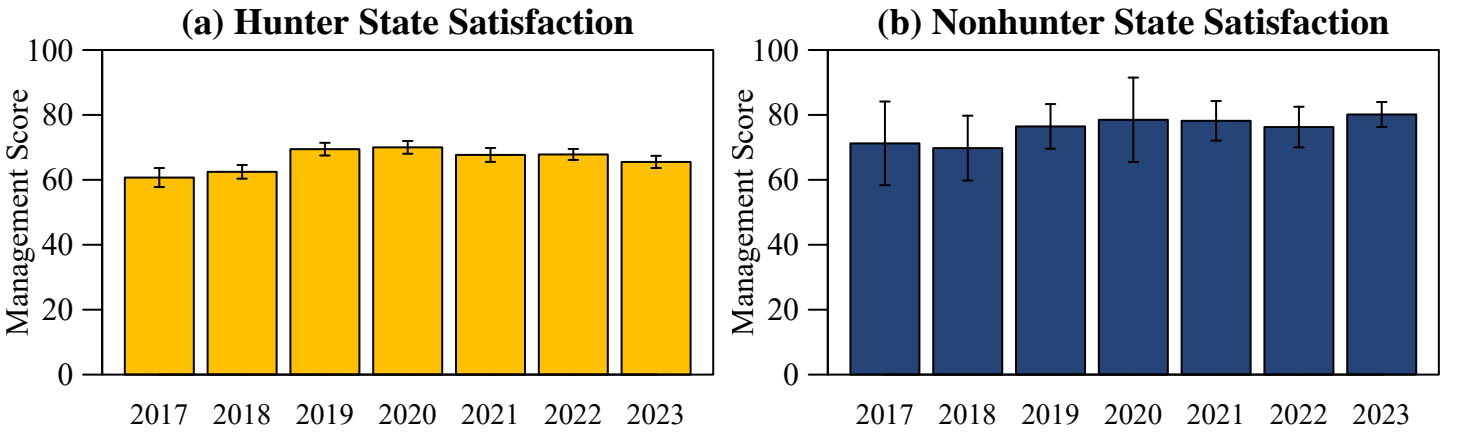

Figure 6. Hunters (a) and nonhunters (b) were asked to score the DNR's statewide deer management on a scale of 0 (poor) to 100 (excellent).

DMU 8: Dearborn

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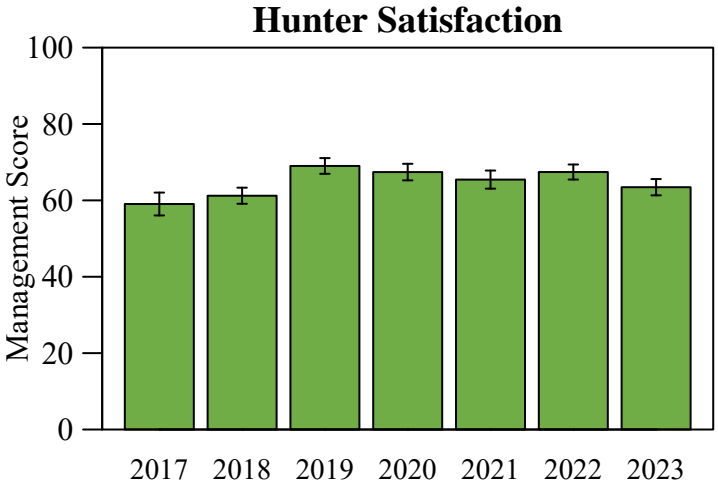

Figure 7. Hunters were asked to score the DNR's county deer management on a scale of 0 (poor) to 100 (excellent) for the county in DMU 8 where they hunt.

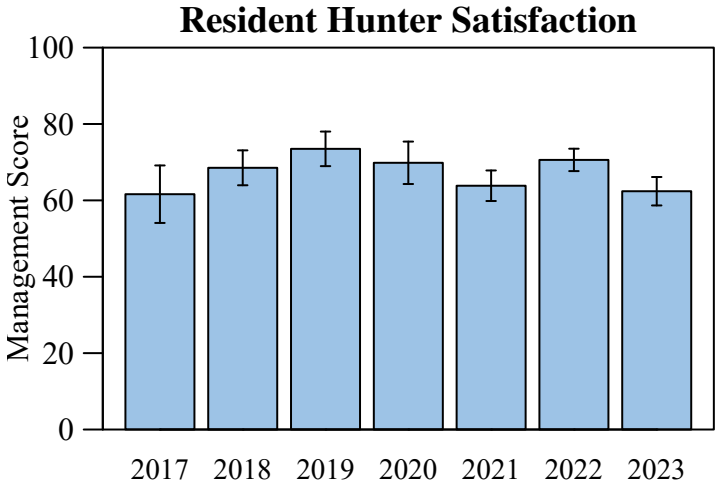

Figure 8. Hunters were asked to score the DNR's county deer management on a scale of 0 (poor) to 100 (excellent) for the county in DMU 8 where they live.

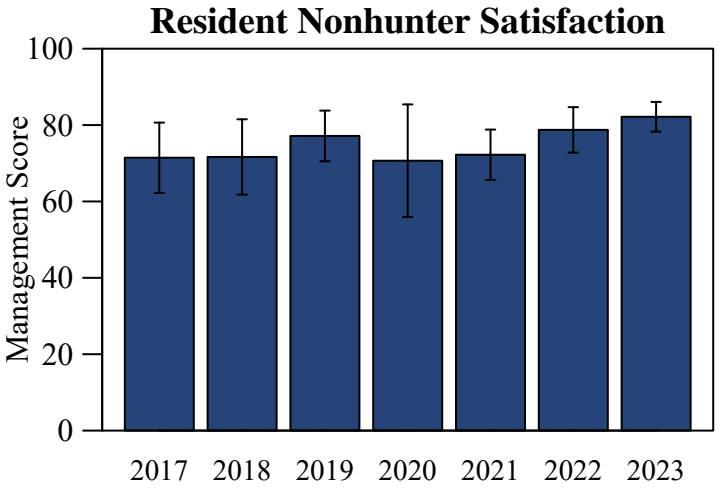

Figure 9. Nonhunters were asked to score the DNR's county deer management on a scale of 0 (poor) to 100 (excellent) for the county in DMU 8 where they live.

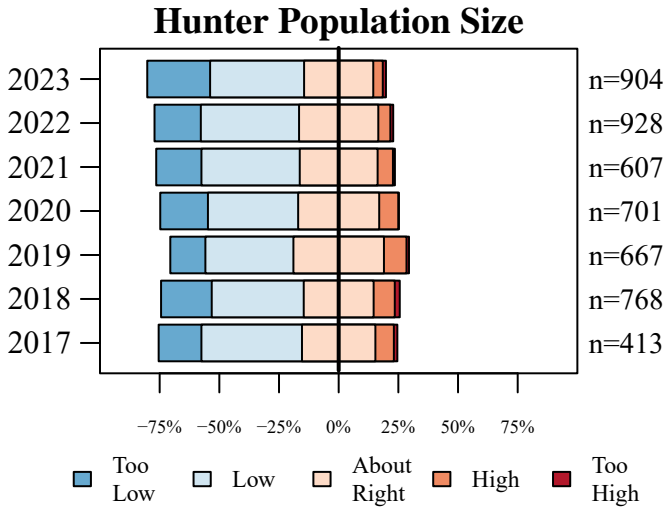

Figure 10. The current size of the deer population described by hunters in the county where they hunt in DMU 8.

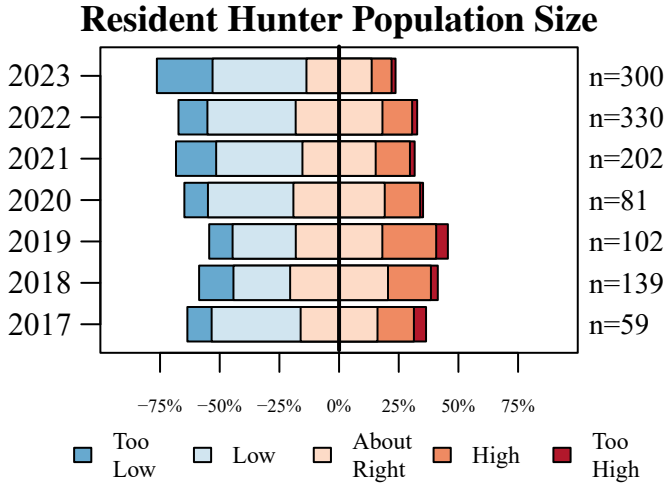

Figure 11. The current size of the deer population described by hunters in the county where they live in DMU 8.

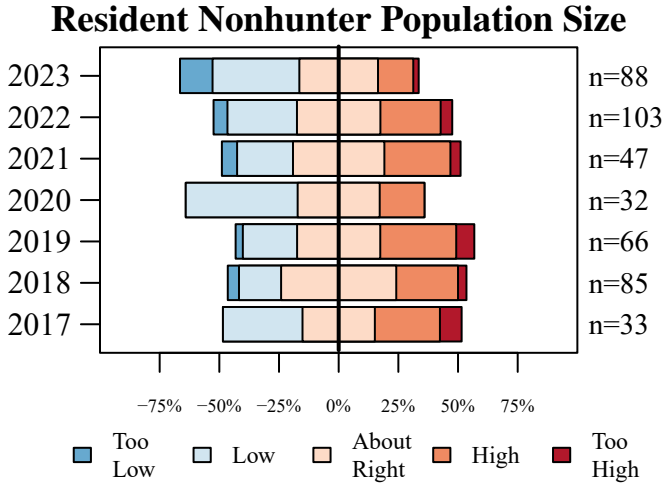

Figure 12. The current size of the deer population described by nonhunters in the county where they live in DMU 8.

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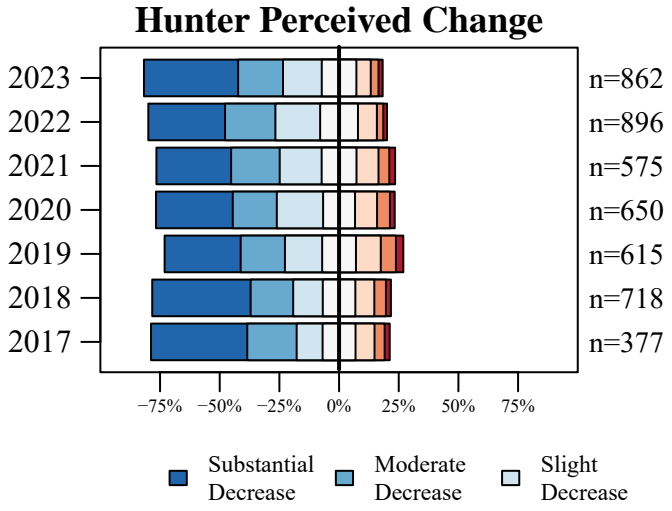
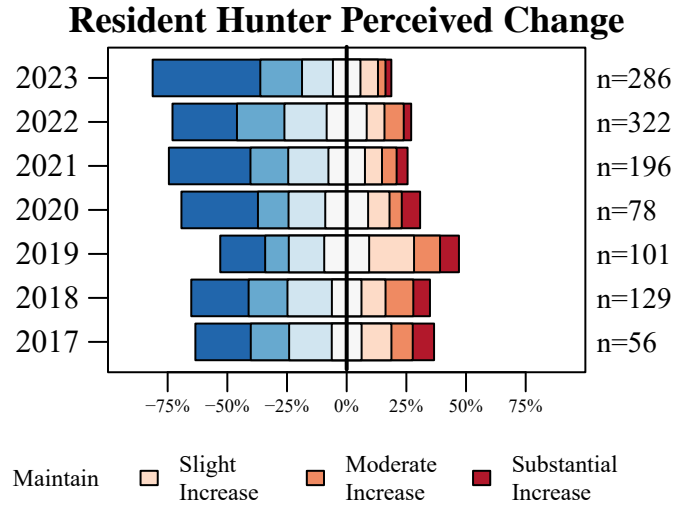


Figure 13. The number of deer seen compared to five years ago described by hunters in the county where they hunt in DMU 8.



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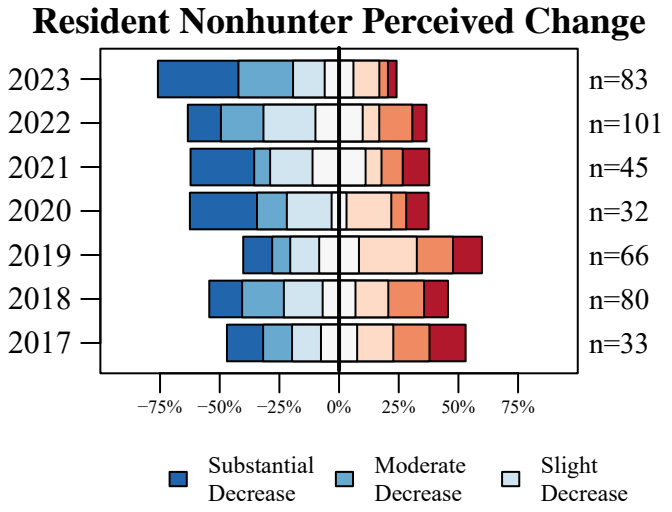


Figure 15. The number of deer seen compared to five years ago described by nonhunters in the county where they live in DMU 8.

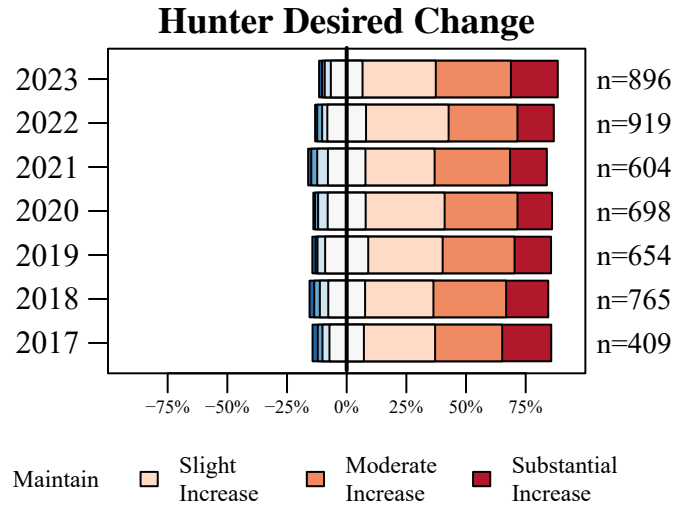
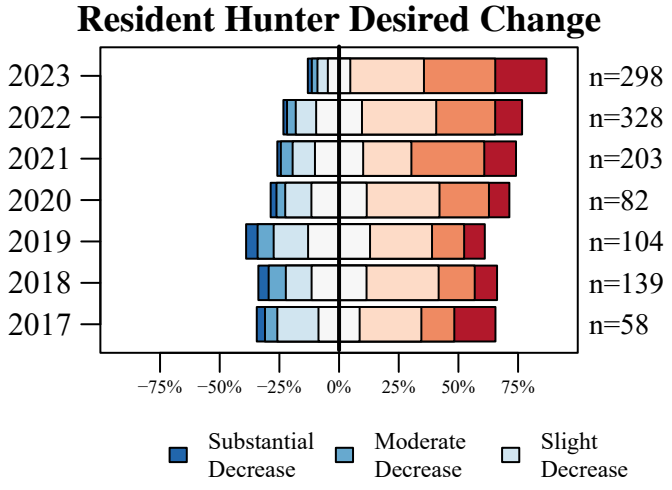


Figure 16. The desired change in the size of the deer population described by hunters in the county where they hunt in DMU 8.



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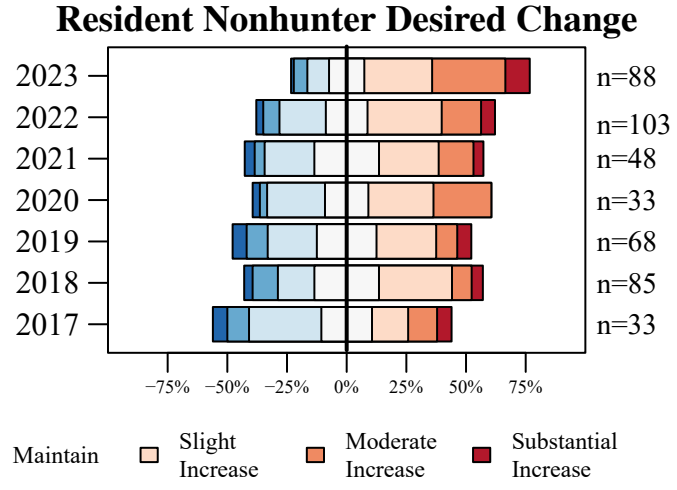

Figure 18. The desired change in the size of the deer population described by nonhunters in the county where they live in DMU 8.

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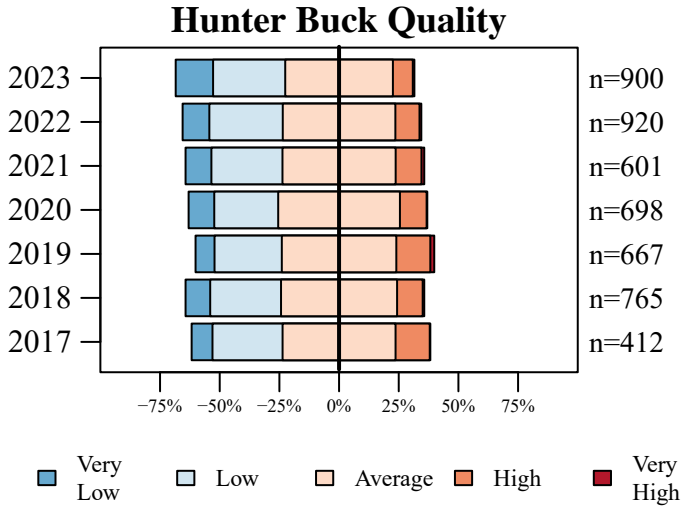

Figure 19. Hunters describe the quality of bucks in the county where they hunt in DMU 8.

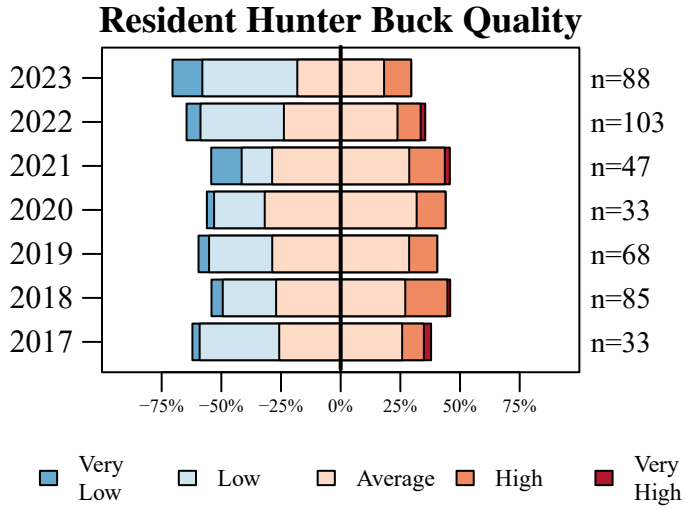

Figure 20. Hunters describe the quality of bucks in the county where they live in DMU 8.

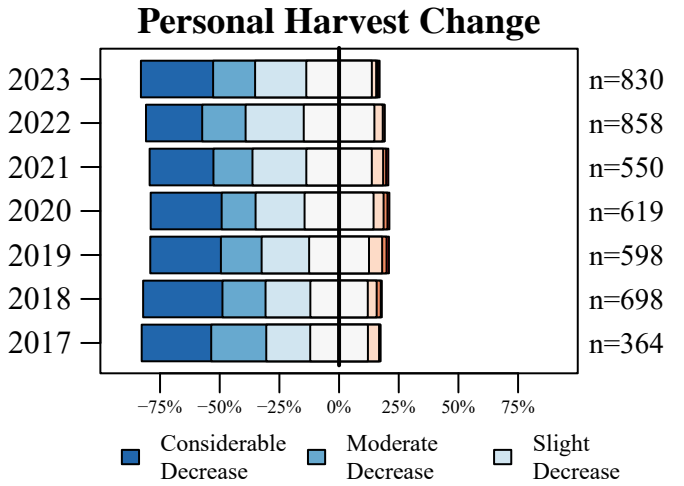

Figure 21. Opinion of hunters on how their personal number of harvested deer has changed over the last five years in a county in DMU 8.

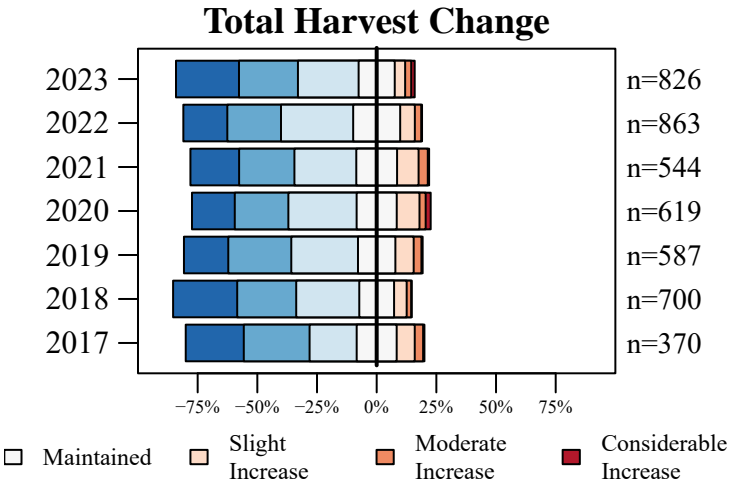

Figure 22. Opinion of hunters on how the total number of harvested deer has changed over the last five years in a county in DMU 8.

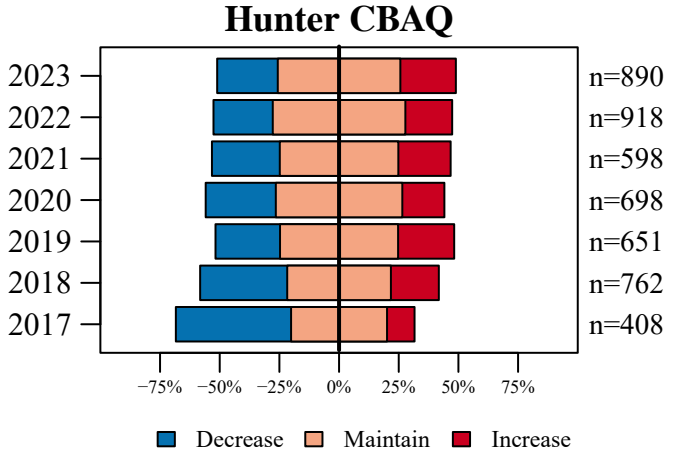

Figure 23. Opinion on how the County Bonus Antlerless Quota should change from hunters in the county where they hunt in DMU 8.

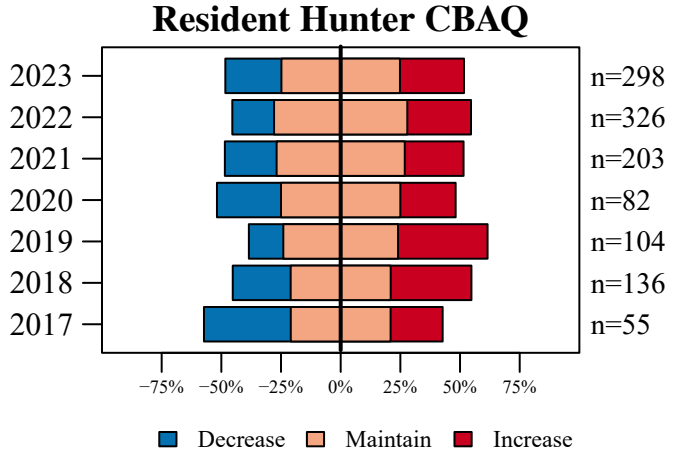

Figure 24. Opinion on how the County Bonus Antlerless Quota should change from hunters in the county where they live in DMU 8.

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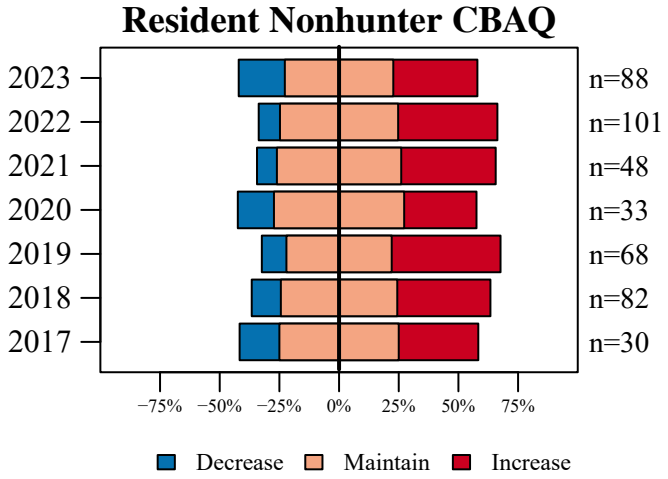

Figure 25. Opinion on how the County Bonus Antlerless Quota should change from nonhunters in the county where they live in DMU 8.

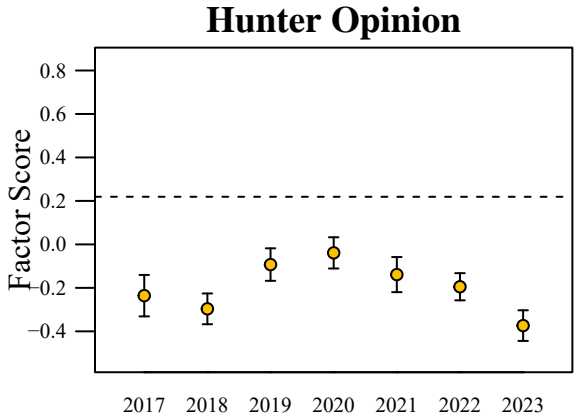

Figure 26. Hunter opinon scores over five years of the deer management survey. The score was aggregated using factor analysis of questions asked only to hunters. The dashed line represents the score if all questions are answered neutrally.

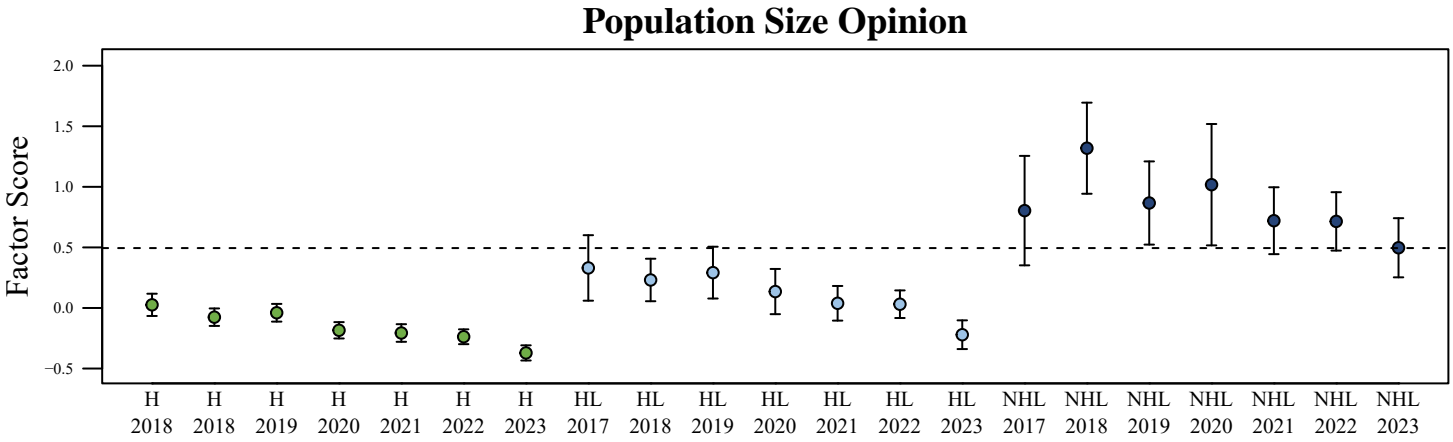

Figure 27. The opinion of nonhunters (NHL) and hunters in the county where they live (HL) and hunters in the county where they hunt (H) on deer population size. The score was aggregated using factor analysis of questions asked to all participants. The dashed line represents the score if all questions are answered neutrally.

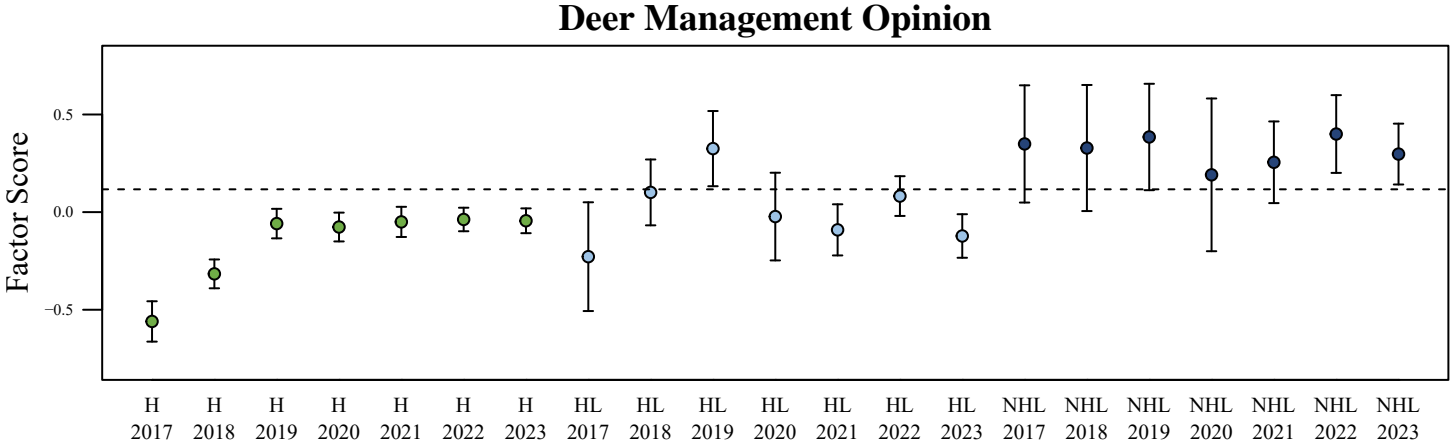

Figure 28. The opinion of nonhunters (NHL) and hunters in the county where they live (HL) and hunters in the county where they hunt (H) on deer management. The score was aggregated using factor analysis of questions asked to all participants. The dashed line represents the score if all questions are answered neutrally.

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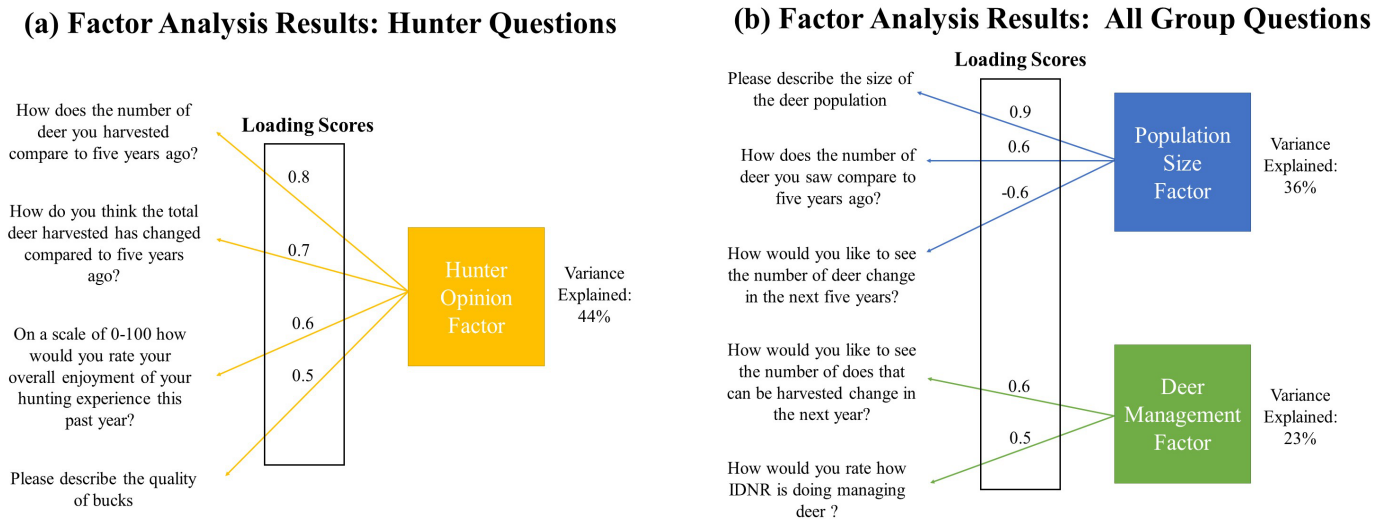


Figure 29. Results from two factor analyses used to develop the hunter opinion (a), population opinion (b), and management opinion (b) scores. Higher loading scores indicate a stronger correlation between the original question and the derived factor. These figures are included to help interpret Figure 26, Figure 27, and Figure 28.

DMU 9: Southwest

5/23/2024

Total Square Miles: 3,682
Square Miles of Deer Habitat: 1,305
Percent Deer Habitat: 35

Table 1. Total harvest, buck harvest, and doe harvest (error < 1 percent). Damage permits are issued by DNR to landowners to control deer damage. Deer vehicle collisions (DVC) and miles traveled are reported by the Indiana Department of Transportation. Mean CBAQ is the average county bonus antlerless quota of all counties in the DMU. The trend in total harvest, buck harvest, doe harvest, and DVCs are in standard deviations (SD) and are equivalent to effect size. A change greater than 2 SD is considered both a large and statistically significant effect size.

Year	Total	Total Trend in SD	Buck Harvest	Buck Trend in SD	Buck Harvest per SQ MI Habitat	Doe Harvest	Doe Trend in SD	Doe Harvest per SQ MI Habitat	% Doe in Harvest	Damage Permit Deer Taken	DVC per Billion Miles Traveled	DVC Trend in SD	Mean CBAQ
2009	11,818		6,178		4.7	5,640		4.3	47.7		226.3		4.8
2010	11,780	-0.5	6,075	-0.5	4.7	5,705	-0.6	4.4	48.4		219.0	0.0	4.7
2011	11,747	-0.3	6,019	-0.3	4.6	5,728	-0.3	4.4	48.8		238.5	2.1	4.7
2012	12,409	1.6	5,802	-0.9	4.4	6,607	4.0	5.1	53.2		224.7	0.0	4.7
2013	12,172	0.6	5,888	-1.0	4.5	6,284	0.8	4.8	51.6		260.3	3.5	4.4
2014	11,929	-0.2	5,891	-0.7	4.5	6,038	0.1	4.6	50.6		265.0	1.9	3.9
2015	11,589	-1.5	5,883	-0.5	4.5	5,706	-1.0	4.4	49.2		276.0	1.7	3.9
2016	10,822	-3.5	5,706	-2.4	4.4	5,116	-2.5	3.9	47.3	107	219.0	-1.6	3.6
2017	10,657	-1.8	5,474	-4.5	4.2	5,183	-1.3	4.0	48.6	128	232.4	-0.6	2.6
2018	10,377	-1.6	5,531	-1.3	4.2	4,846	-1.6	3.7	46.7	65	231.7	-0.8	2.0
2019	10,725	-0.5	5,859	0.8	4.5	4,866	-1.1	3.7	45.4	81	224.2	-0.8	1.8
2020	11,927	2.4	6,348	3.5	4.9	5,579	1.3	4.3	46.8	94	199.5	-1.6	2.0
2021	10,787	-0.2	5,905	0.3	4.5	4,882	-0.8	3.7	45.3	96	207.3	-1.0	2.0
2022	11,781	1.5	6,470	1.8	5.0	5,311	0.8	4.1	45.1	110	208.3	-0.7	2.0
2023	11,433	0.5	6,225	0.5	4.8	5,208	0.3	4.0	45.6	105	226.6	0.9	2.0

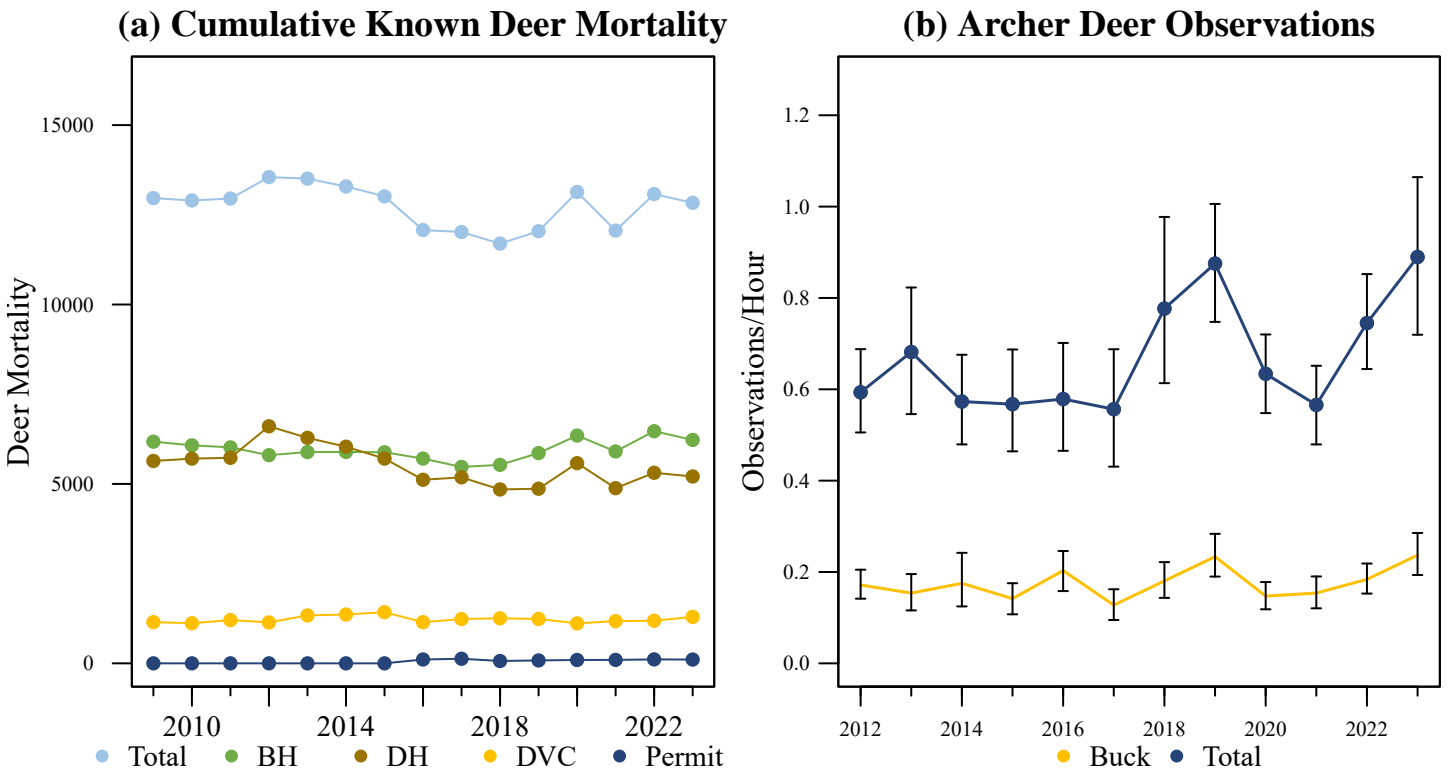


Figure 1. (a) The total known annual deer mortality based on buck harvests (BH), doe harvests (DH), deer vehicle collisions (DVC), and deer permit takes. (b) Total deer and buck observations per hour based on the Archer's Index.

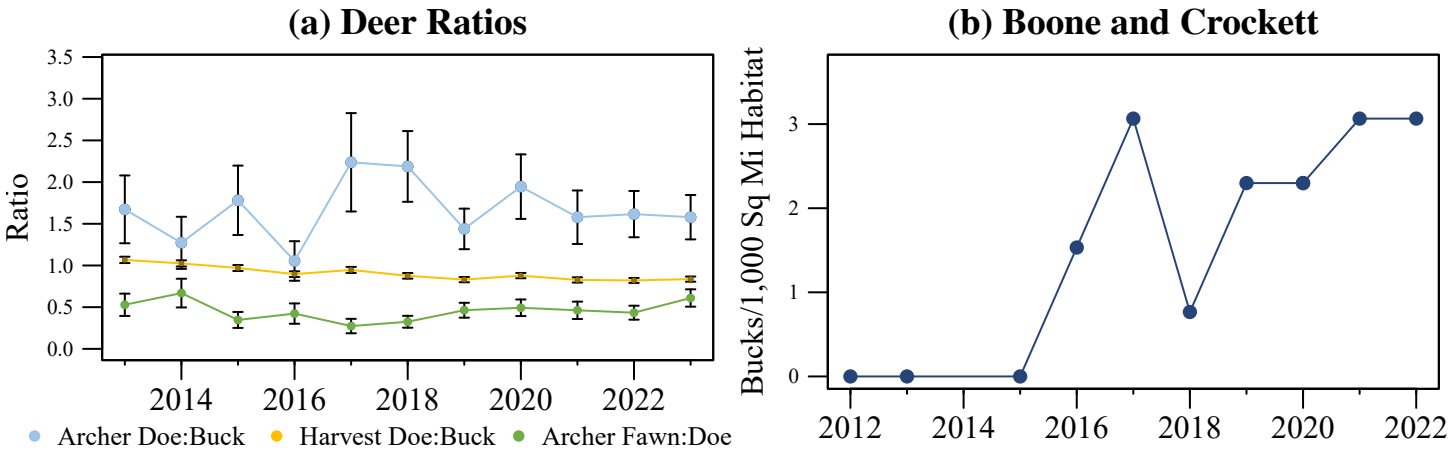
DMU 9: Southwest

5/23/2024

Total Square Miles: 3,682
Square Miles of Deer Habitat: 1,305
Percent Deer Habitat: 35

Table 2. Estimated number of antlered (A) and antlerless (AL) deer harvested per hunter. Estimated totals may not match exactly with total number of deer harvested. Reporting errors are examined and investigated as they are located; therefore, subsequent reports may contain corrected totals.

Year	Total Hunters	0 A	1 A	2 A	3 A	0 AL	1 AL	2 AL	3 AL	4 AL	5 AL	6 AL	7 AL	8 AL	9 AL	10 AL
2016	8,489	3,705	4,765	18	0	3,649	3,852	832	127	25	4	0	0	0	0	0
2017	8,305	3,903	4,386	16	0	3,260	4,030	864	129	18	2	2	0	0	0	0
2018	8,218	3,624	4,572	21	1	3,459	3,866	797	86	9	0	1	0	0	0	0
2019	8,359	3,462	4,870	27	0	3,569	3,869	851	57	10	0	2	1	0	0	0
2020	9,192	3,906	5,254	29	2	3,785	4,331	975	85	13	2	1	0	0	0	0
2021	8,523	3,515	4,986	22	0	3,725	3,913	823	52	8	2	0	0	0	0	0
2022	9,100	3,543	5,531	25	1	4,053	4,004	954	73	14	2	0	0	0	0	0
2023	8,904	3,546	5,333	25	0	3,947	3,971	899	73	10	2	2	0	0	0	0



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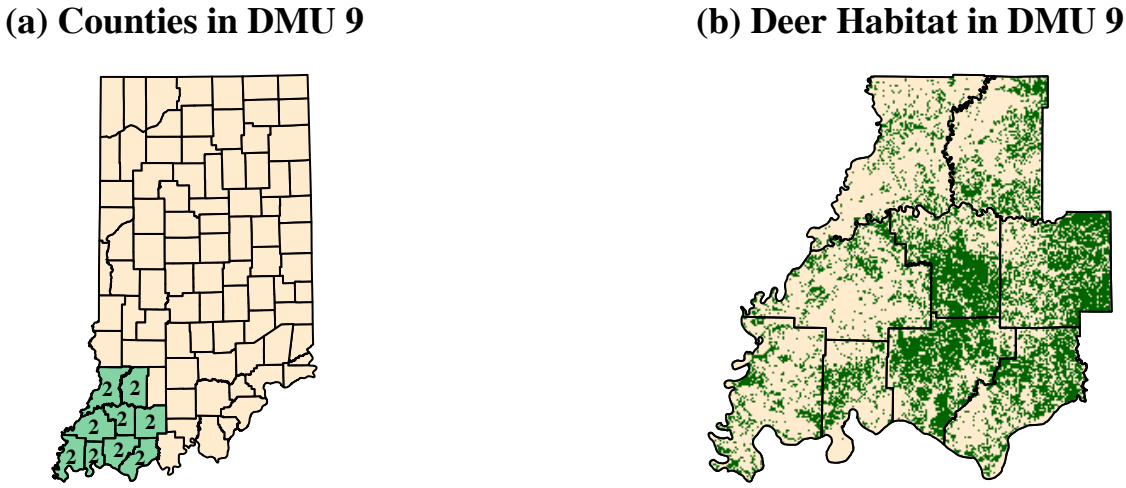
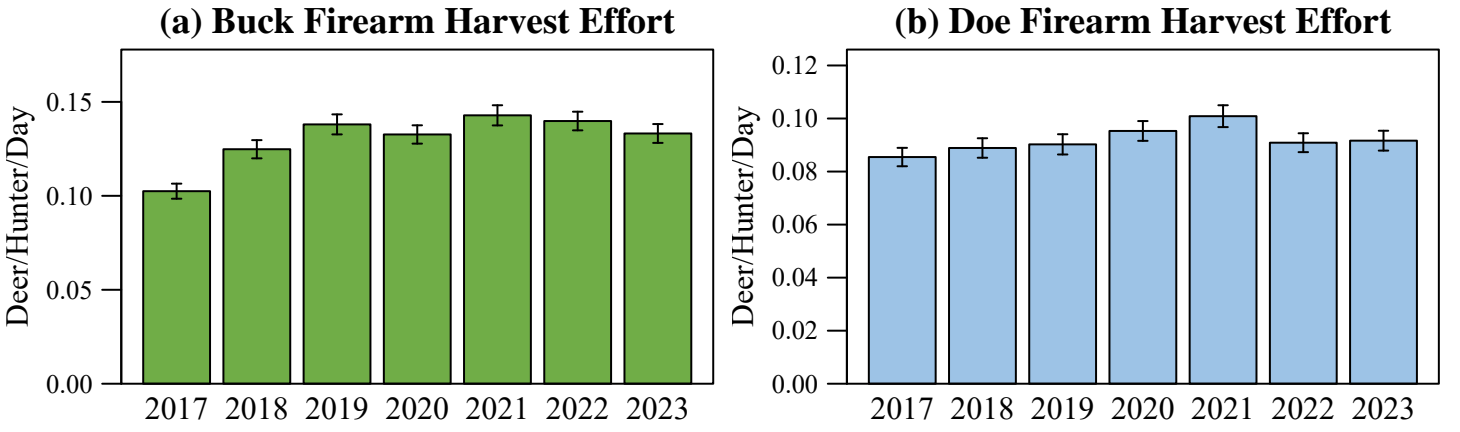


Figure 3. (a) Counties included in DMU 9 for summarizing harvest and deer management survey statistics. Labels are the 2023 county bonus antlerless quotas. (b) Green represents the land use types classified as deer habitat in DMU 9.

DMU 9: Southwest

5/23/2024

Deer Management Survey Results



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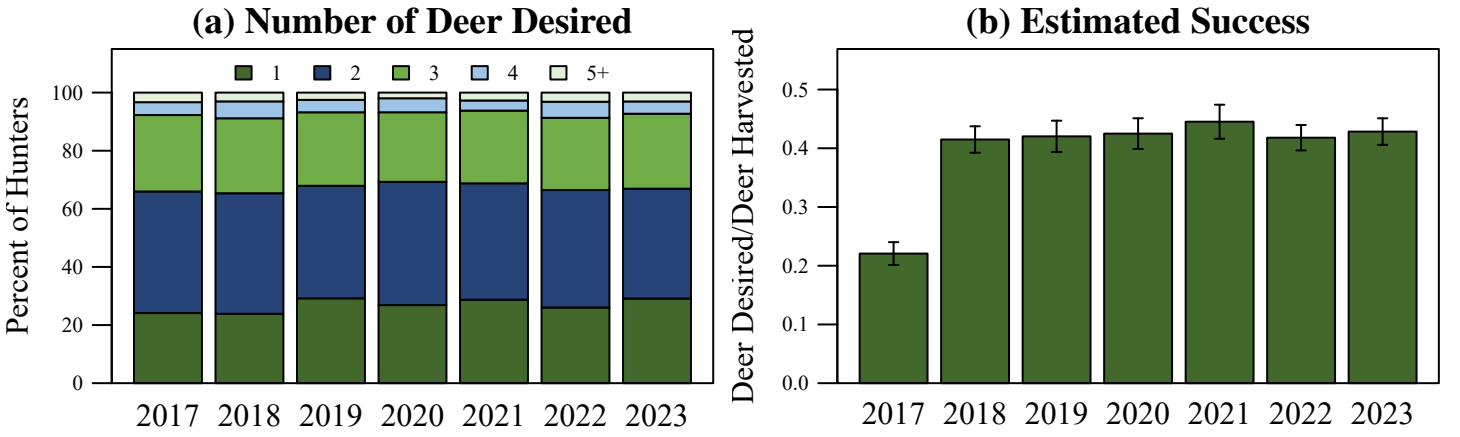

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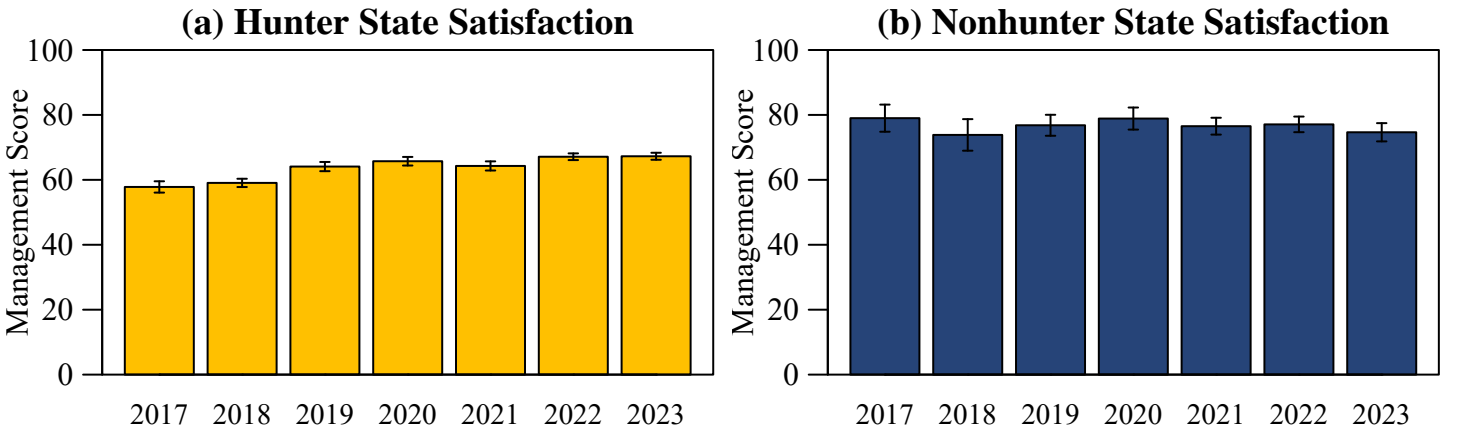

Figure 6. Hunters (a) and nonhunters (b) were asked to score the DNR's statewide deer management on a scale of 0 (poor) to 100 (excellent).

DMU 9: Southwest

5/23/2024

Deer Management Survey Results

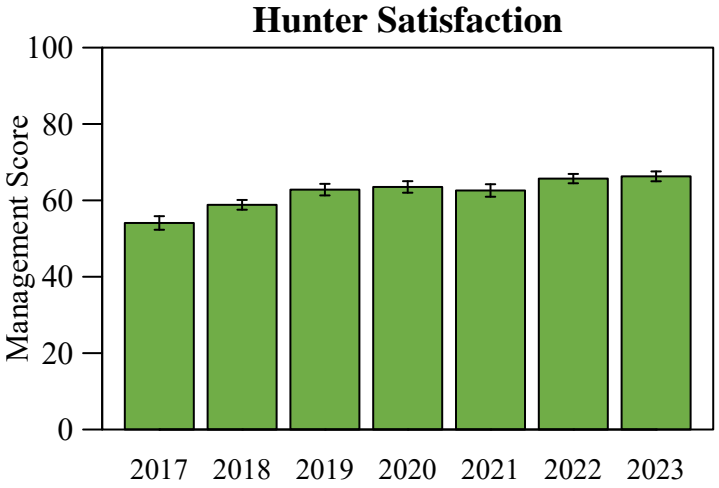

Figure 7. Hunters were asked to score the DNR's county deer management on a scale of 0 (poor) to 100 (excellent) for the county in DMU 9 where they hunt.

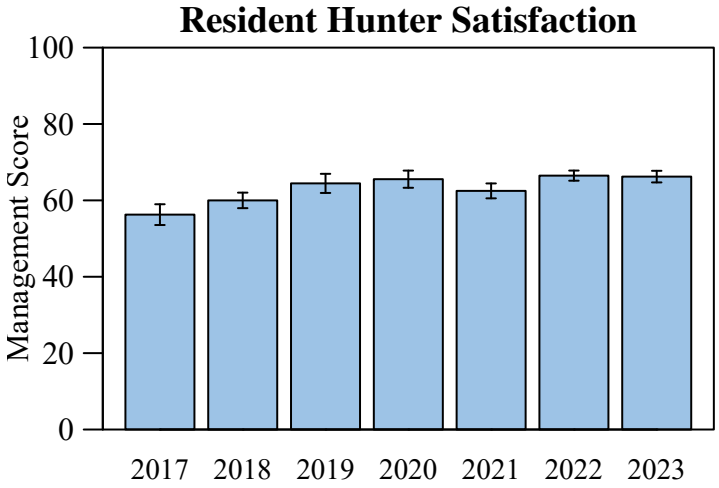

Figure 8. Hunters were asked to score the DNR's county deer management on a scale of 0 (poor) to 100 (excellent) for the county in DMU 9 where they live.

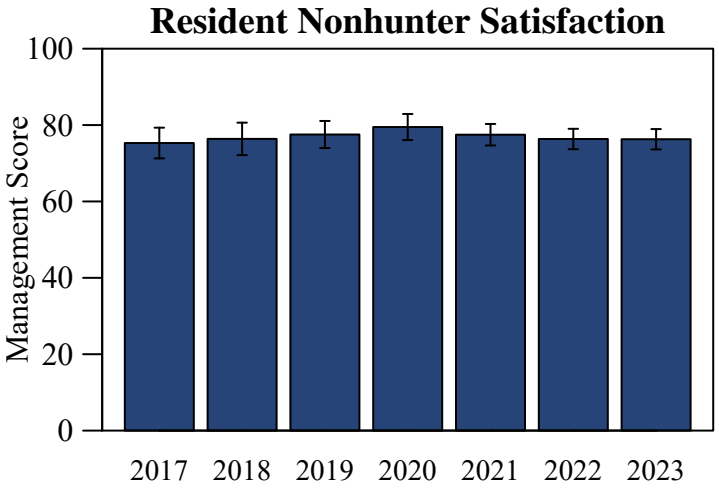

Figure 9. Nonhunters were asked to score the DNR's county deer management on a scale of 0 (poor) to 100 (excellent) for the county in DMU 9 where they live.

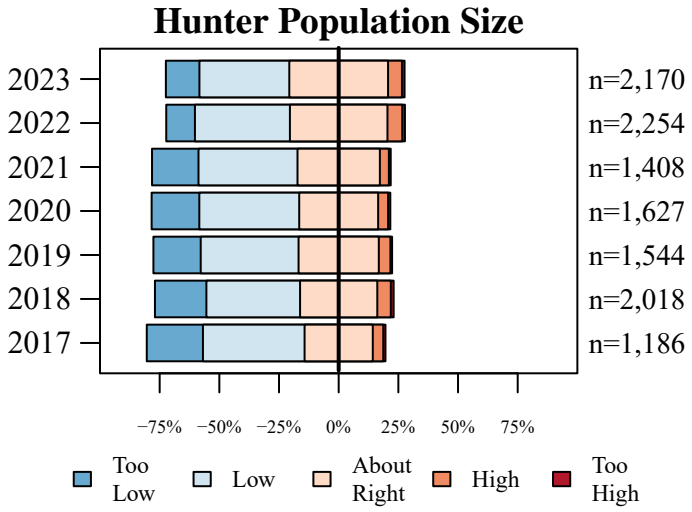

Figure 10. The current size of the deer population described by hunters in the county where they hunt in DMU 9.

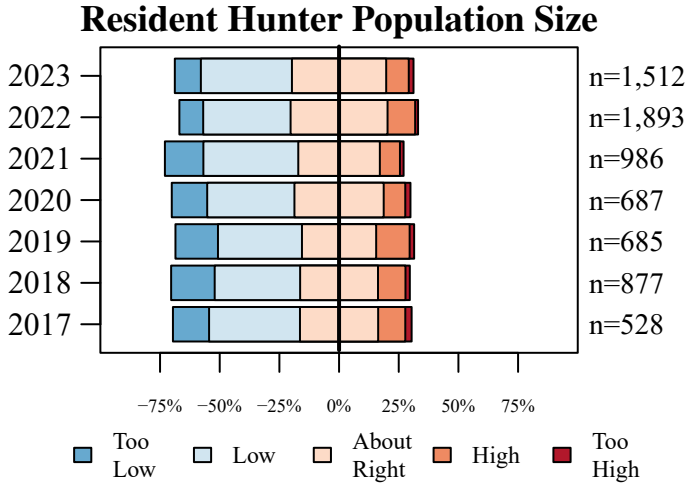

Figure 11. The current size of the deer population described by hunters in the county where they live in DMU 9.

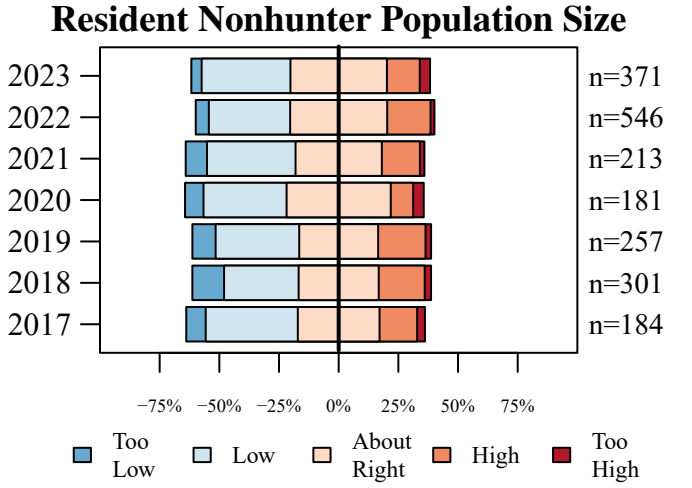

Figure 12. The current size of the deer population described by nonhunters in the county where they live in DMU 9.

DMU 9: Southwest

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Deer Management Survey Results

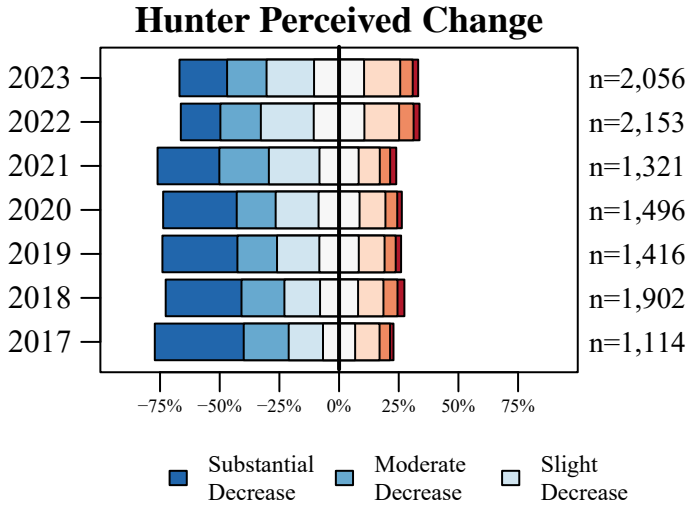


Figure 13. The number of deer seen compared to five years ago described by hunters in the county where they hunt in DMU 9.

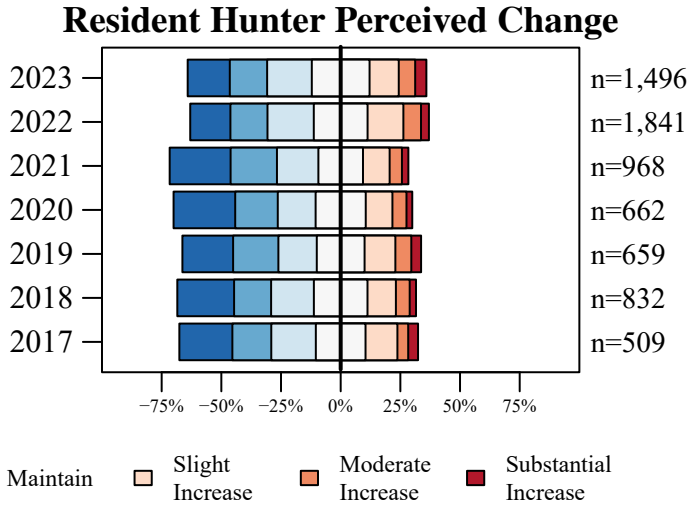


Figure 14. The number of deer seen compared to five years ago described by hunters in the county where they live in DMU 9.

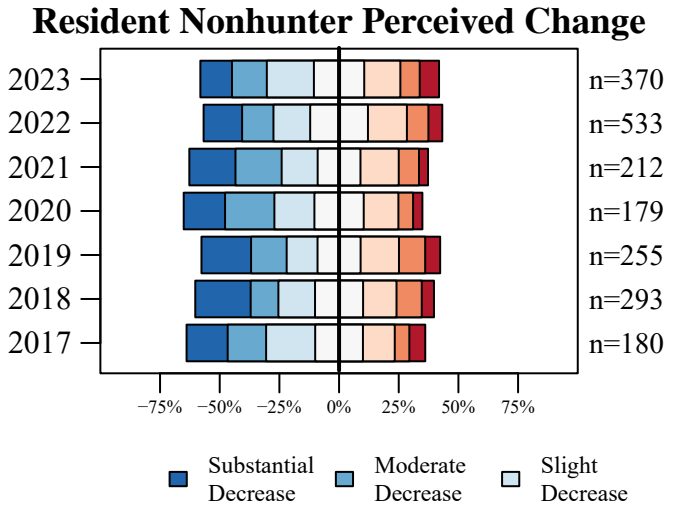


Figure 15. The number of deer seen compared to five years ago described by nonhunters in the county where they live in DMU 9.

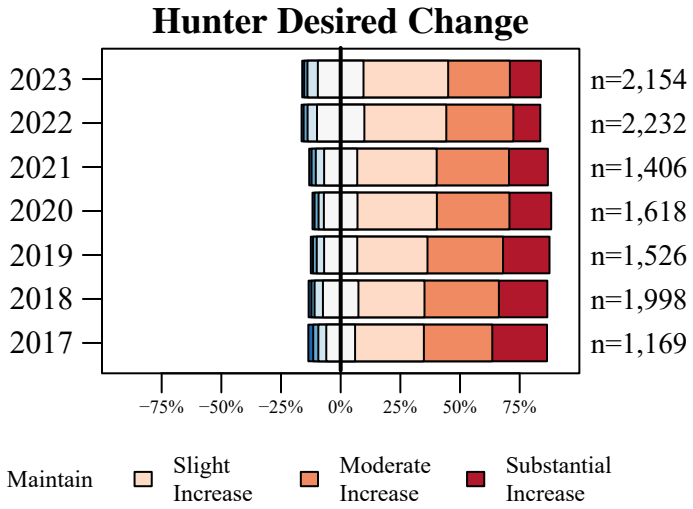
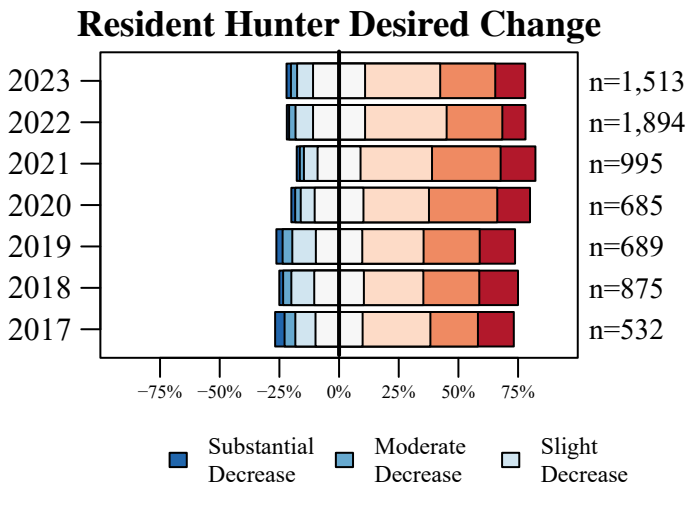


Figure 16. The desired change in the size of the deer population described by hunters in the county where they hunt in DMU 9.



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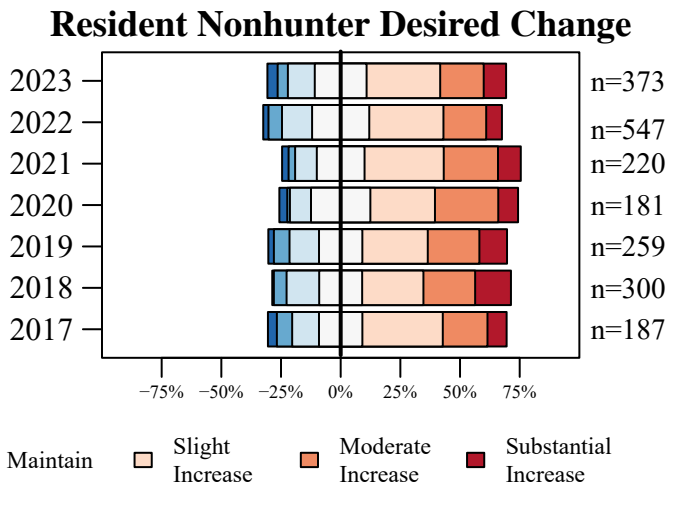


Figure 18. The desired change in the size of the deer population described by nonhunters in the county where they live in DMU 9.

DMU 9: Southwest

5/23/2024

Deer Management Survey Results

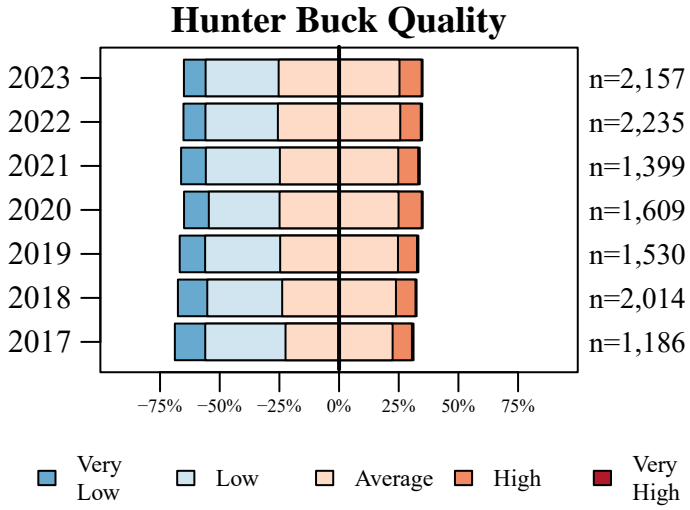


Figure 19. Hunters describe the quality of bucks in the county where they hunt in DMU 9.

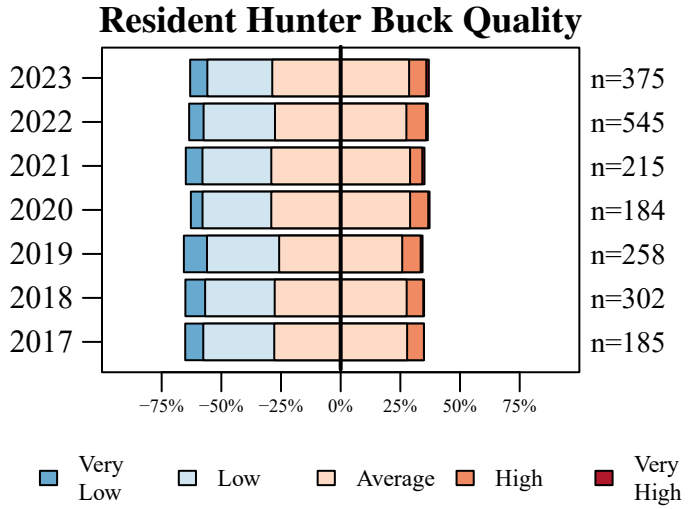


Figure 20. Hunters describe the quality of bucks in the county where they live in DMU 9.

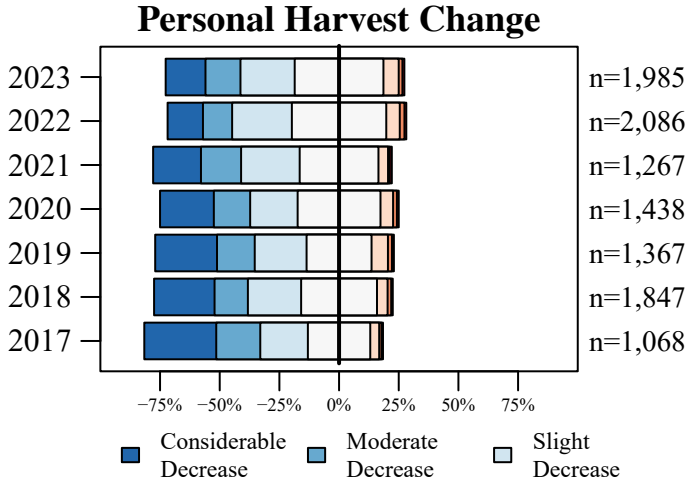


Figure 21. Opinion of hunters on how their personal number of harvested deer has changed over the last five years in a county in DMU 9.

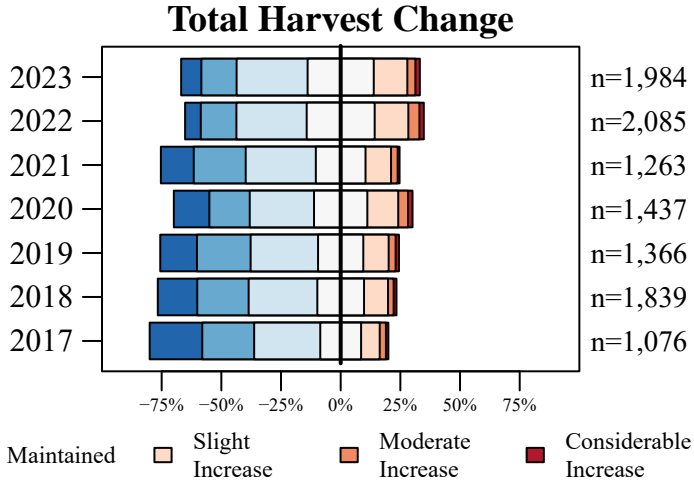


Figure 22. Opinion of hunters on how the total number of harvested deer has changed over the last five years in a county in DMU 9.

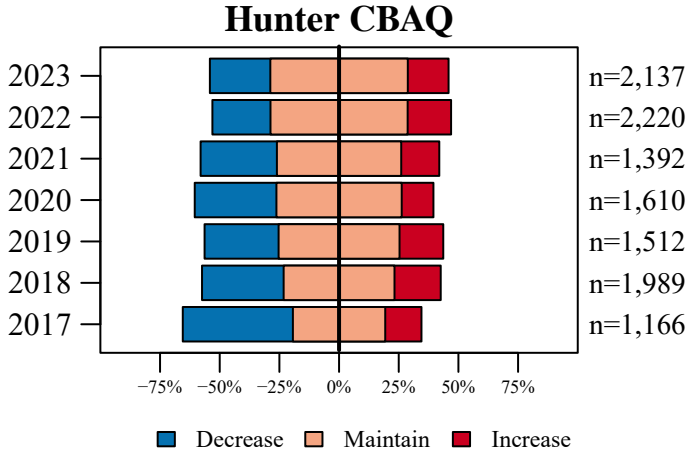


Figure 23. Opinion on how the County Bonus Antlerless Quota should change from hunters in the county where they hunt in DMU 9.

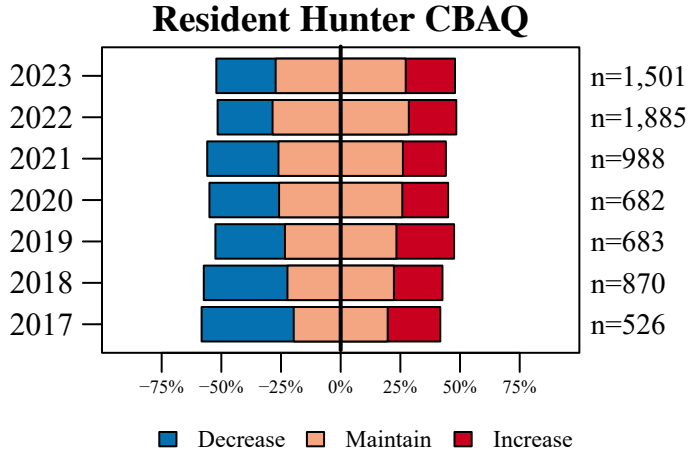


Figure 24. Opinion on how the County Bonus Antlerless Quota should change from hunters in the county where they live in DMU 9.

DMU 9: Southwest

5/23/2024

Deer Management Survey Results

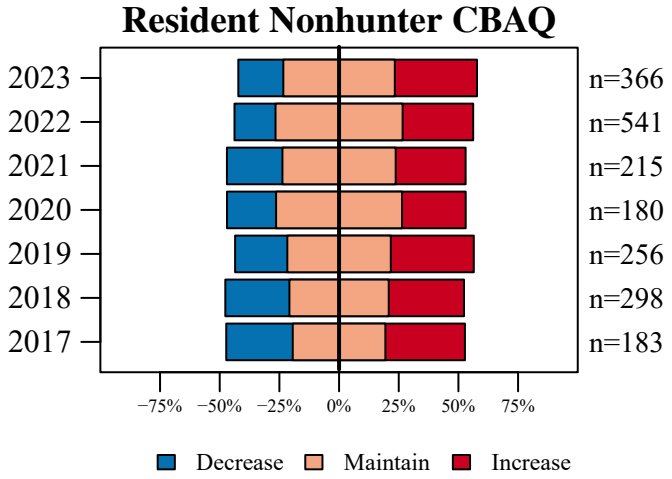
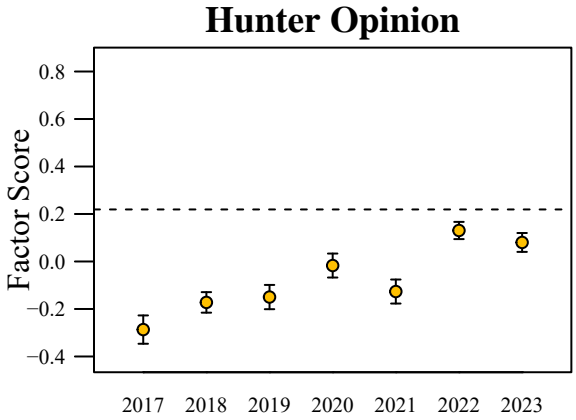


Figure 25. Opinion on how the County Bonus Antlerless Quota should change from nonhunters in the county where they live in DMU 9.



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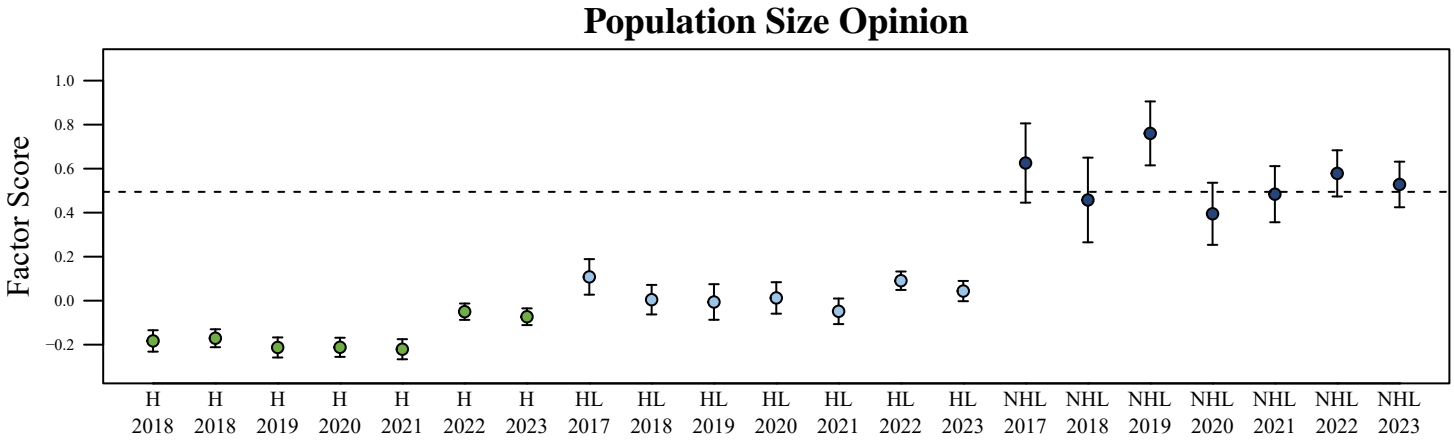


Figure 27. The opinion of nonhunters (NHL) and hunters in the county where they live (HL) and hunters in the county where they hunt (H) on deer population size. The score was aggregated using factor analysis of questions asked to all participants. The dashed line represents the score if all questions are answered neutrally.

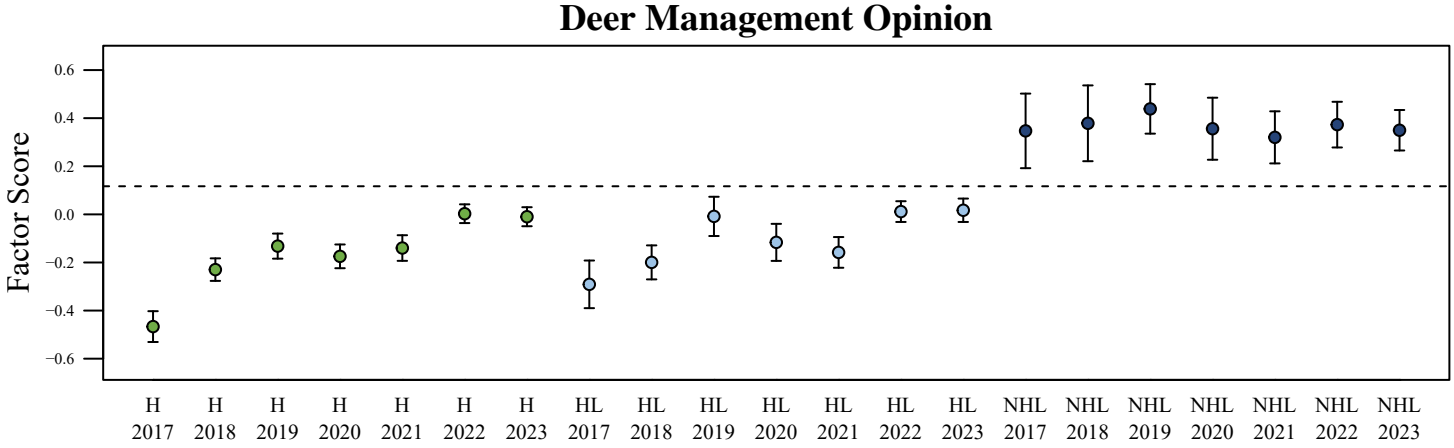
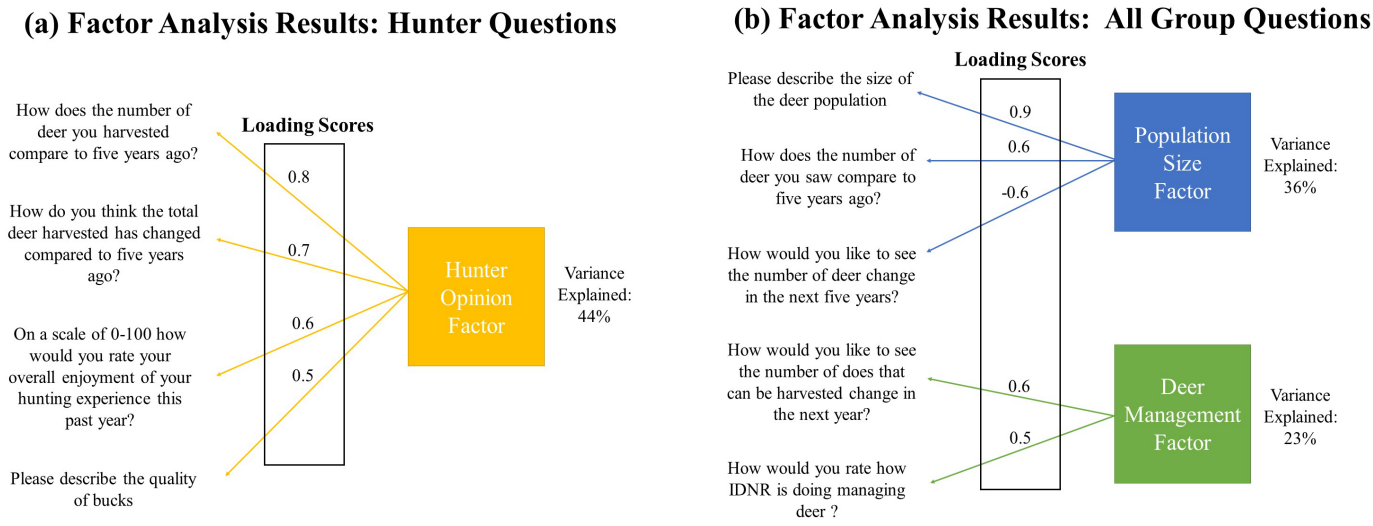


Figure 28. The opinion of nonhunters (NHL) and hunters in the county where they live (HL) and hunters in the county where they hunt (H) on deer management. The score was aggregated using factor analysis of questions asked to all participants. The dashed line represents the score if all questions are answered neutrally.

DMU 9: Southwest

5/23/2024

Deer Management Survey Results



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DMU 10: Urban

5/23/2024

Total Square Miles: 403
Square Miles of Deer Habitat: 42
Percent Deer Habitat: 10

Table 1. Total harvest, buck harvest, and doe harvest (error < 1 percent). Damage permits are issued by DNR to landowners to control deer damage. Deer vehicle collisions (DVC) and miles traveled are reported by the Indiana Department of Transportation. Mean CBAQ is the average county bonus antlerless quota of all counties in the DMU. The trend in total harvest, buck harvest, doe harvest, and DVCs are in standard deviations (SD) and are equivalent to effect size. A change greater than 2 SD is considered both a large and statistically significant effect size.

Year	Total	Total Trend in SD	Buck Harvest	Buck Trend in SD	Buck Harvest per SQ MI Habitat	Doe Harvest	Doe Trend in SD	Doe Harvest per SQ MI Habitat	% Doe in Harvest	Damage Permit Deer Taken	DVC per Billion Miles Traveled	DVC Trend in SD	Mean CBAQ
2009	351		224		5.3	127		3.0	36.2		12.4		8
2010	352	1.0	191	0.2	4.5	161	2.1	3.8	45.7		11.6	-0.4	8
2011	375	1.4	207	0.5	4.9	168	1.8	4.0	44.8		12.2	0.3	8
2012	501	7.5	179	-1.9	4.3	322	8.1	7.7	64.3		9.0	-2.1	8
2013	510	1.9	203	0.3	4.8	307	1.6	7.3	60.2		11.2	-0.1	8
2014	469	0.6	166	-2.0	4.0	303	1.0	7.2	64.6		9.5	-1.3	8
2015	444	0.0	167	-1.3	4.0	277	0.3	6.6	62.4		10.5	-0.1	8
2016	416	-0.8	166	-0.9	4.0	250	-0.4	6.0	60.1	3	9.8	-0.5	8
2017	448	-0.5	187	0.7	4.5	261	-1.1	6.2	58.3	174	11.0	1.2	8
2018	435	-0.6	170	-0.5	4.0	265	-0.6	6.3	60.9	123	10.0	-0.5	3
2019	444	0.1	196	2.8	4.7	248	-1.1	5.9	55.9	100	7.6	-4.3	2
2020	493	4.3	196	1.4	4.7	297	3.1	7.1	60.2		8.7	-0.8	2
2021	428	-0.7	174	-0.6	4.1	254	-0.5	6.0	59.3	94	9.5	0.1	2
2022	480	1.2	209	2.0	5.0	271	0.3	6.5	56.5	80	9.2	-0.1	2
2023	443	-0.5	197	0.5	4.7	246	-1.1	5.9	55.5	1	11.4	2.5	2

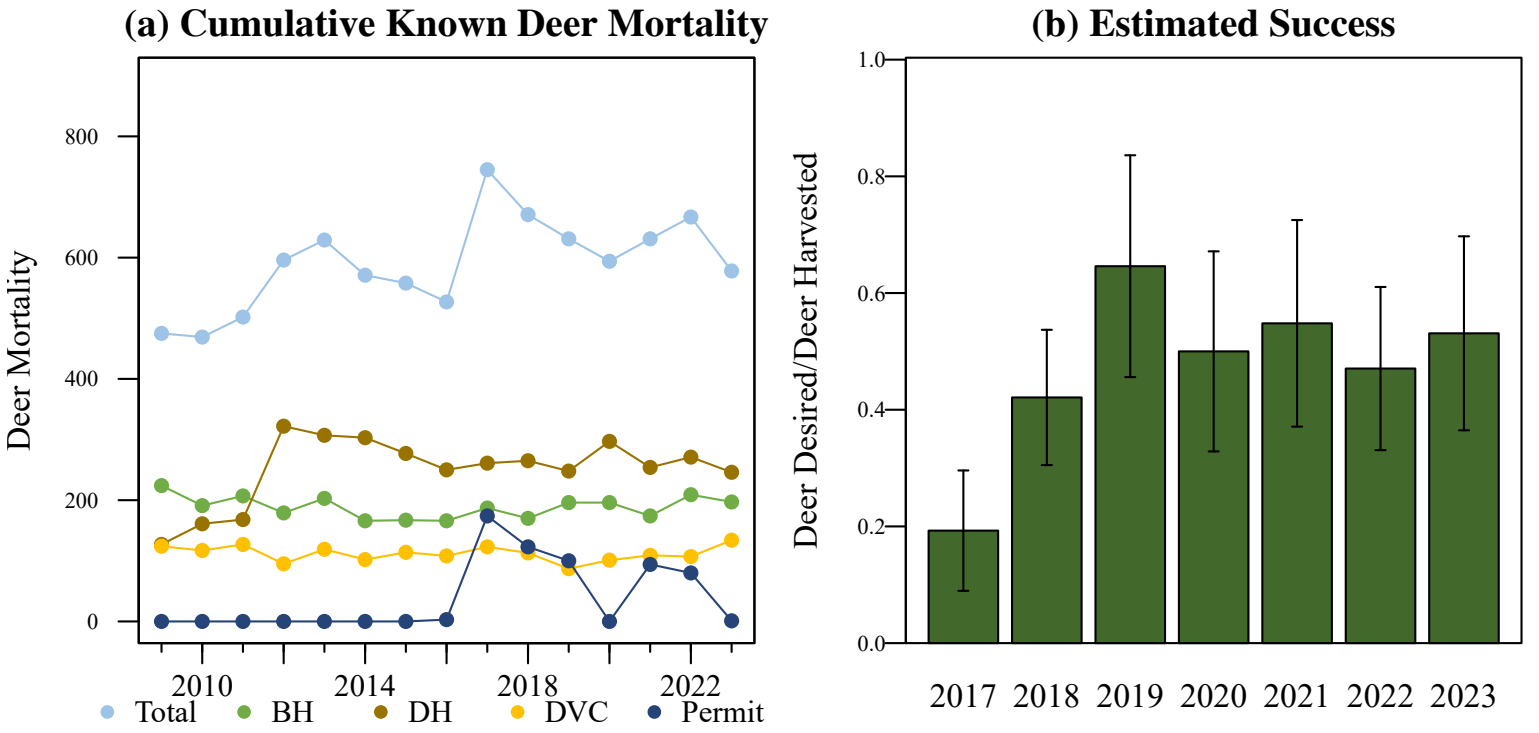

Figure 1. (a) The total known annual deer mortality based on buck harvests (BH), doe harvests (DH), deer vehicle collisions (DVC), and deer permit takes. (b) Success rate is estimated from the deer management survey as the Number of Harvested Deer/Number of Deer Desired (reported only; does not account for attempts that were not made). Larger values (i.e. taller bars) indicate greater success.

DMU 10: Urban

5/23/2024

Total Square Miles: 403
Square Miles of Deer Habitat: 42
Percent Deer Habitat: 10

Table 2. Estimated number of antlered (A) and antlerless (AL) deer harvested per hunter. Estimated totals may not match exactly with total number of deer harvested. Reporting errors are examined and investigated as they are located; therefore, subsequent reports may contain corrected totals.

Year	Total Hunters	0 A	1 A	2 A	3 A	0 AL	1 AL	2 AL	3 AL	4 AL	5 AL	6 AL	7 AL	8 AL	9 AL	10 AL
2016	313	182	127	4	0	71	211	24	6	1	0	0	0	0	0	0
2017	316	187	120	9	0	65	206	35	8	0	2	0	0	0	0	0
2018	303	179	120	4	0	63	188	40	10	1	1	0	0	0	0	0
2019	311	186	112	13	0	64	198	40	8	1	0	0	0	0	0	0
2020	337	190	140	7	0	64	227	32	8	6	0	0	0	0	0	0
2021	311	171	134	6	0	63	220	22	6	0	0	0	0	0	0	0
2022	335	179	145	11	0	70	228	29	5	3	0	0	0	0	0	0
2023	310	164	135	11	0	71	202	27	10	0	0	0	0	0	0	0

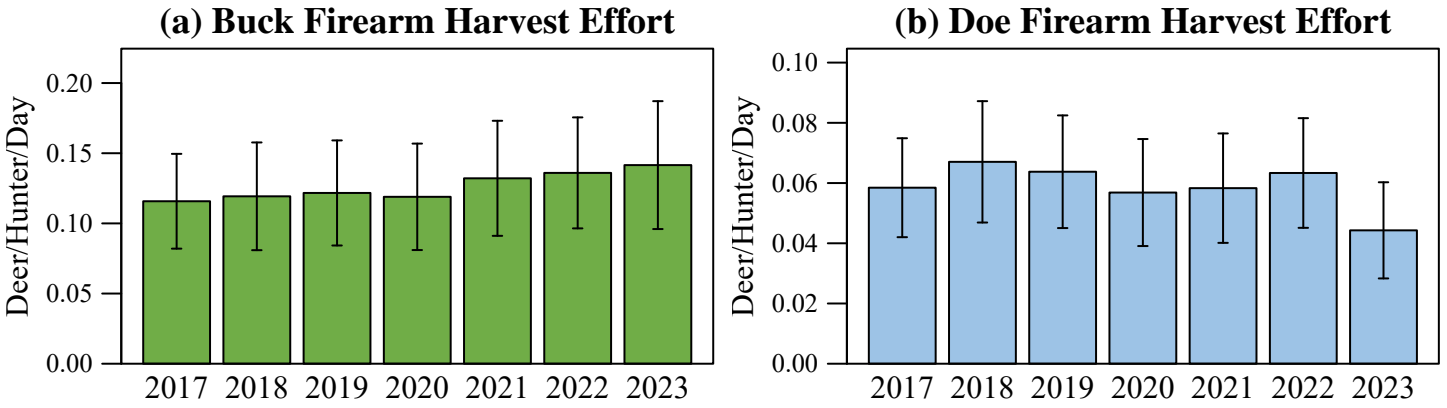

Figure 2. Firearm harvest effort is the number of bucks (a) and does (b) killed by firearms per hunter divided by the mean number of days hunted per hunter during the firearm season based on data reported in the deer management survey. Larger values (i.e taller bars) indicate less effort required to harvest a deer.

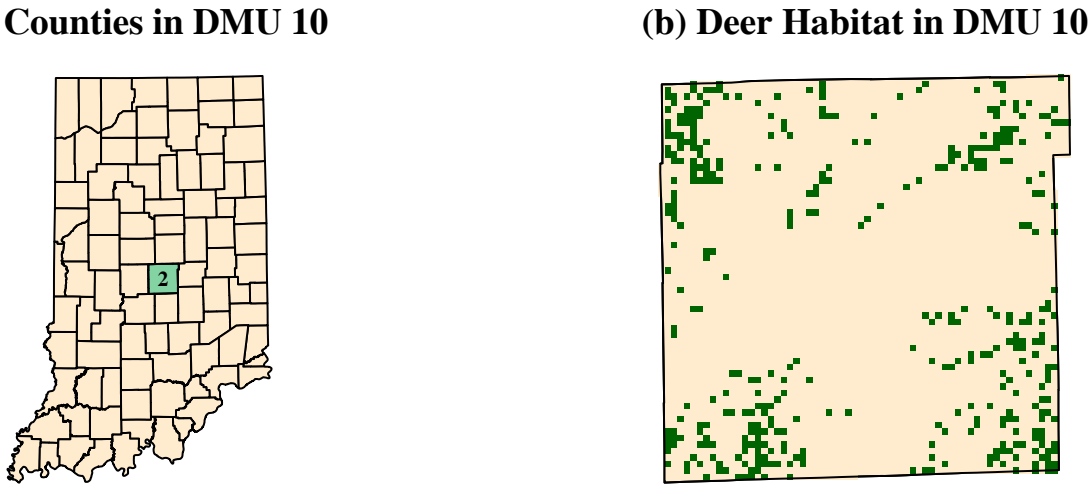

Figure 3. (a) Counties included in DMU 10 for summarizing harvest and deer management survey statistics. Labels are the 2023 county bonus antlerless quotas. (b) Green represents the land use types classified as deer habitat in DMU 10.

DMU 10: Urban

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Deer Management Survey Results

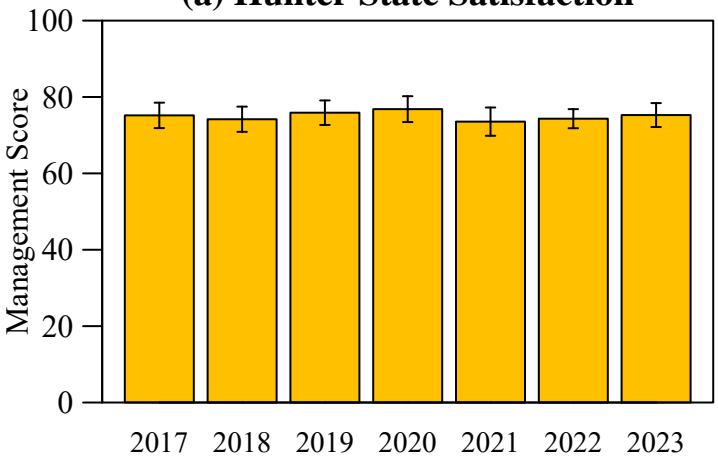
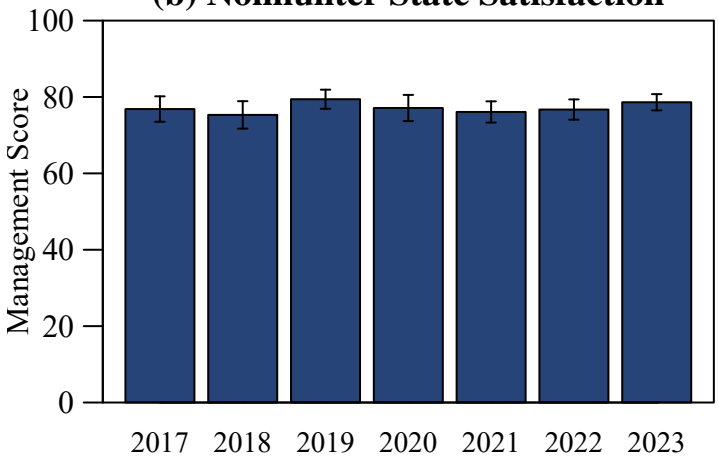


Figure 4. Hunters were asked to score the DNR's state deer management on a scale of 0 (poor) to 100 (excellent) for the county in DMU 10 where they live.



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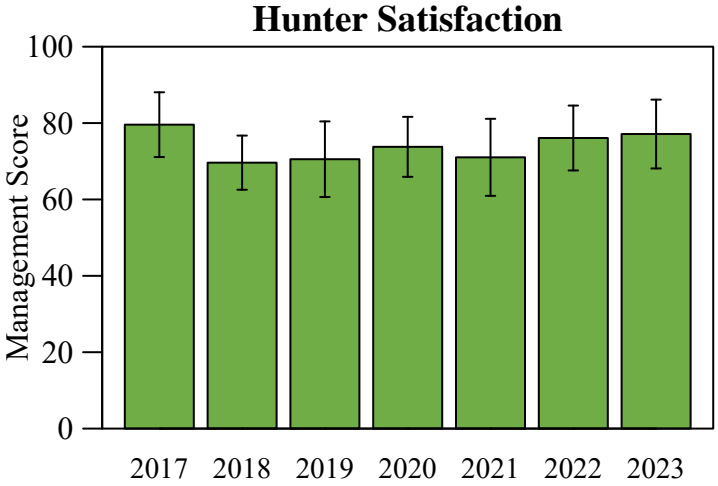

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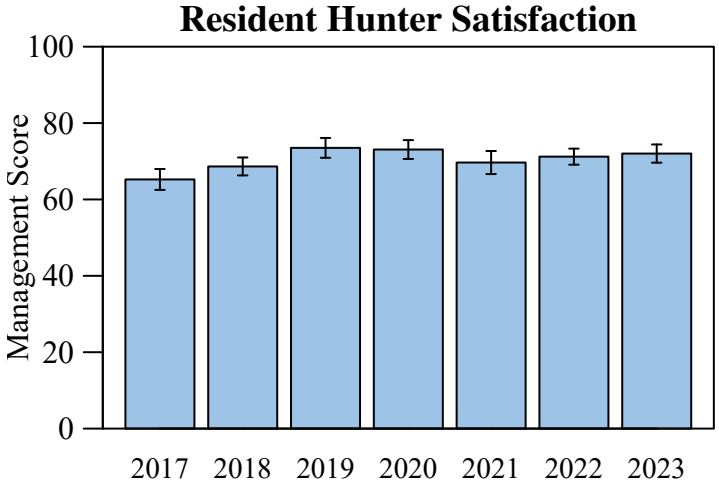

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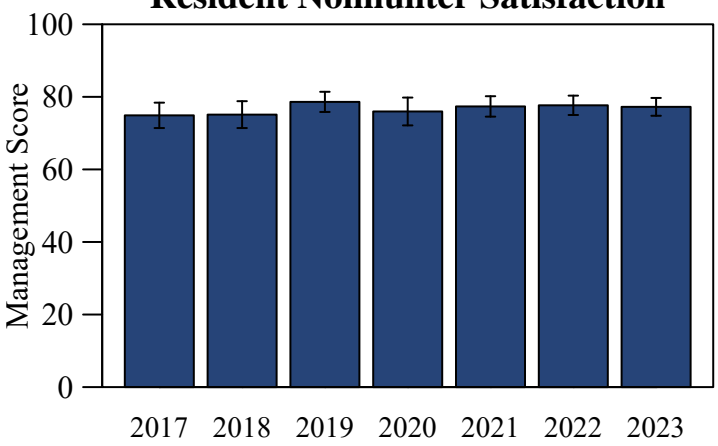

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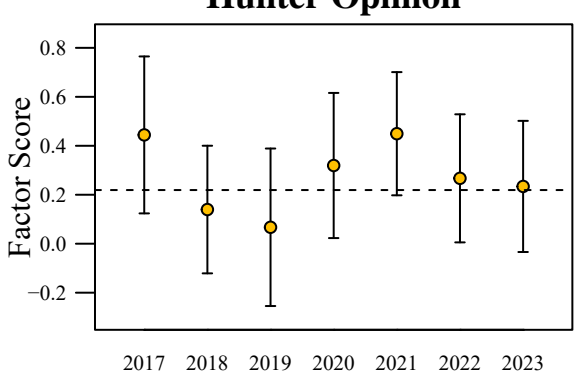

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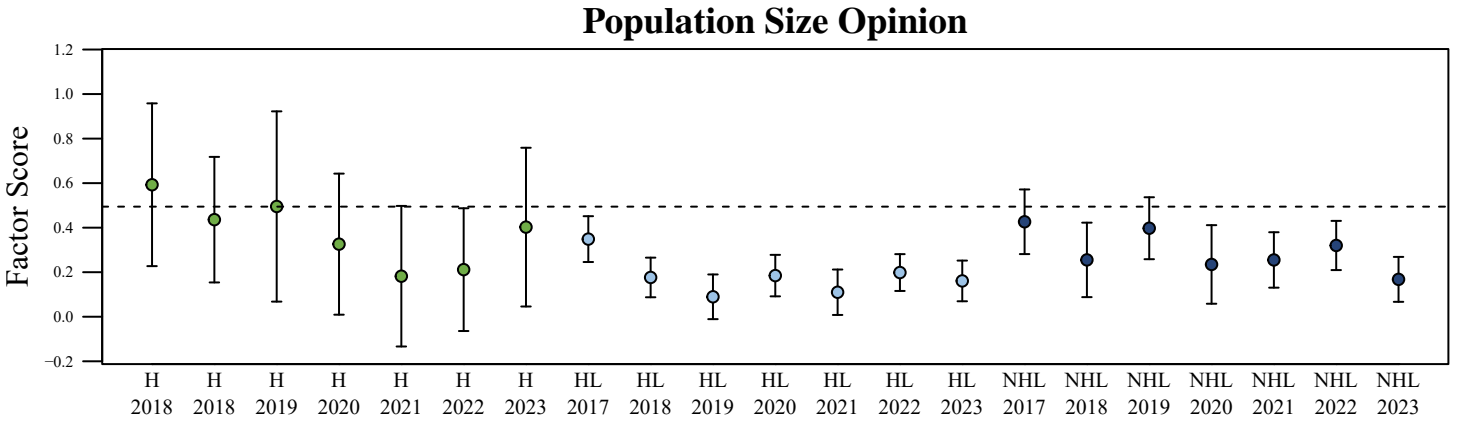
DMU 10: Urban

5/23/2024

Deer Management Survey Results



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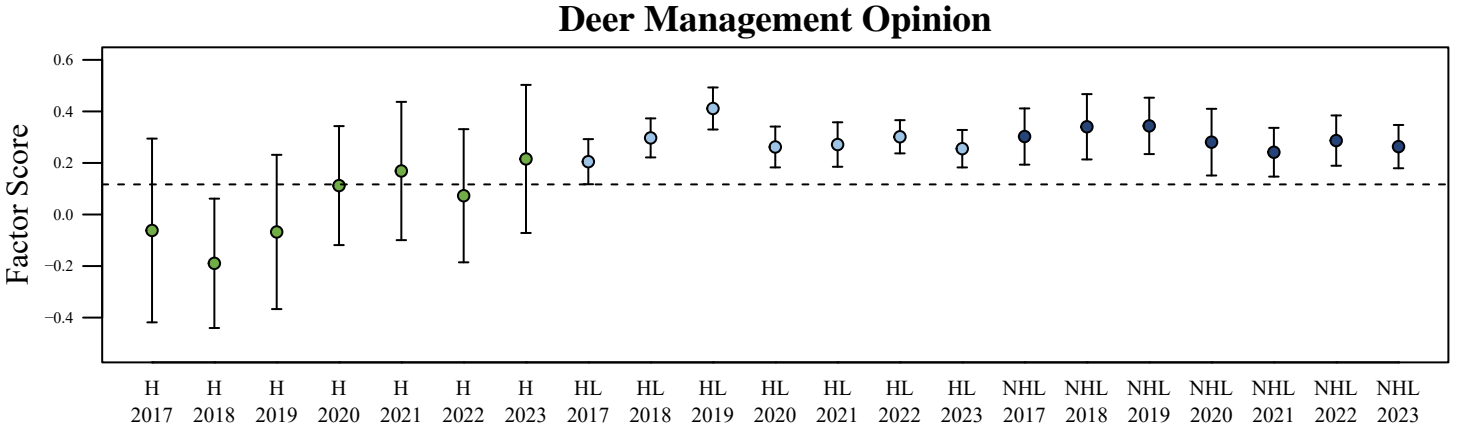

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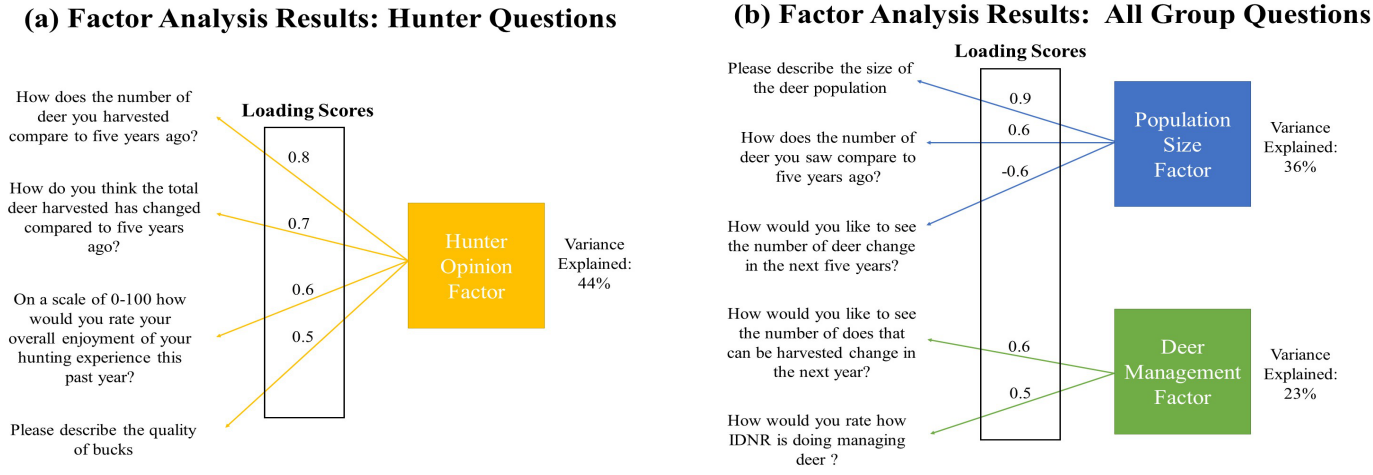

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