

Title: 2024 State Park Deer Management Hunt Results

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Abstract: The year 2024 marked the 31st anniversary of deer management hunts in Indiana State Parks. The first management hunt was held in 1993 as an effort to mitigate damage to vegetation and unique habitat by an overpopulation of white-tailed deer (*Odocoileus virginianus*) in Brown County State Park. Multiple parks have hosted deer management hunts annually since 1995 and have included up to 21 parks, 2 state recreation areas, and 1 natural area. The decision to start management hunts at individual parks has been based on scientific vegetation monitoring. Decisions to continue management hunts at individual parks are made annually using harvest data and consideration of occurrences of rare, threatened, and endangered flora that could be affected by excessive browsing by deer. In 2024, 6,707 hunter efforts were used to assist 21 parks, 1 natural area, and 2 recreation areas. The result was a harvest of 1,567 deer. Daily standby drawings were held at several parks. Such drawings are conducted from time to time to reduce the impact of originally drawn hunters not showing up or not returning on the second day of each hunt. The 2024 harvest yielded a mean harvest per effort of 0.26, which is above the program target of 0.22-0.20.

Introduction

White-tailed deer (*Odocoileus virginianus*) have thrived in Indiana State Parks since they were reintroduced to Indiana in the middle 20th century. Mild winters, absence of once-present natural predators, and a decades-long lack of human hunting within protected state park boundaries resulted in excessive browsing by deer that compromised the overall composition, structure, and function of most natural communities throughout the state park system. Browse lines and small, malnourished deer were a common sight at most state park properties by the late 1980s.

The first deer management hunt was held in 1993, with 466 hunters harvesting 392 deer. Since 1995, as many as 21 parks, 24 if including Cave River Valley Natural Area (CRV), Raccoon Lake State Recreation Area (SRA), and Trine SRA, have held management hunts in the same year (Table 1.). The decision to start management hunts at any one park has been supported by data from monitoring particular herbaceous species at individual parks. Once parks begin management hunts, harvest data are incorporated into annual decisions regarding habitat recovery and whether specific parks require a management hunt the next year. Research indicates that vegetation and habitat begin to recover from overbrowsing at a property once a rate of firearm harvest per effort (H/E) lowers to 0.22-0.20 and/or harvest per square mile (H/Mi²) is between 12 and 16 deer. Hunters are drawn for each park to fit a density of one hunter per 15-20 acres. Parks where archery is regularly used (Clifty Falls, Fort Harrison, and Trine SRA) due to

urban interface or size, have a H/E target of 0.10-0.08 and one hunter per 7-10 acres. Participants have been allowed to take up to three deer each (up to one of which could be antlered). These deer are in addition to regular statewide bag limits.

Table 1. Number of State Parks and Deer Harvest 1993-2024

Year	Number of Parks	Total Deer
1993	1	392
1994	0	0
1995	5	1,422
1996	7	2,027
1997	9	2,430
1998	10	1,735
1999	10	1,599
2000	15	1,697
2001	13	1,483
2002	14	1,609
2003	20	2,121
2004	15	1,253
2005	16	1,336
2006	17	2,213
2007	18	1,300
2008	17	1,468
2009	17	1,334
2010	16	1,689
2011	22	1,546
2012	14	1,292
2013	22	1,763
2014	19	1,004
2015	14	806
2016	18	1,219
2017	18	1,158
2018	19	1,302
2019	17	775
2020	17	1,243
2021	17	943
2022	18	1,322
2023	18	1,500
2024	24	1,567
Total Deer:		44,548

2024 Summary

Twenty-four state park properties (including two recreation areas and one natural area) required deer management hunts in 2024. The first two-day hunt was held Nov. 18 and 19 and the second was held Dec. 2 and 3. A total of 1,567 deer were harvested with 6,707 hunter efforts across two, two-day hunts. This was the highest overall harvest number since 2013 and the most properties hunted in program history. The mean 2024 H/E was 0.26, which is a marked decrease over the 2023 H/E of 0.35.

Nov. 18 and 19 saw mild, warm weather throughout much of the state, with temperature highs in the 50s and 60s. Many locations saw light rain on one or both days, with lows in the 40s. Dec. 2 and 3 were much colder, with highs in the 20s to 30s and lows in the upper teens to low 20s. Many areas saw light snow. Skies were generally overcast or cloudy.

Weather during the first hunt period was fair, with unseasonably warm temperatures and light rain, although this likely had a minimal effect on hunter participation and success. Weather during the second hunting period saw colder temperatures and scattered snow, likely leading to improved hunting conditions compared to the first hunting period. Overall, weather did not appear to be a limiting factor in the overall hunt results. However, weather impacts are specific to each location and generalizations about their influence on the hunt have limited utility.

The mean no-show rate was 43.8%. This is less than the current five-year mean no-show rate of 45.0%. This percentage represents the number of total hunters who participated in the hunt compared to the total number of hunters who were drawn to hunt.

The H/E data for 2024 were lower than those seen in 2023 and a return to long-term trend levels. The data for H/E were relatively stable from 2007 to 2024, except 2023 as a notable outlier. The 2024 mean H/E of 0.26 was a large decrease from the 2023 mean H/E of 0.35 (Figure 1). The five-year

mean H/E was 0.28, or slightly greater than the target. Six firearms properties and two archery properties fell at or below the target H/E threshold after the 2024 hunts and will likely not require a hunt in 2025. Two properties saw only their second year of hunting in 2024 (see below), which experienced high harvest rates due to a lack of hunting in prior years. Factors such as weather conditions, EHD outbreaks (or lack thereof), and changing statewide deer harvest limits are all possible factors that may influence harvest levels within the parks. Future hunts will continue to take into consideration fluctuating harvest levels.

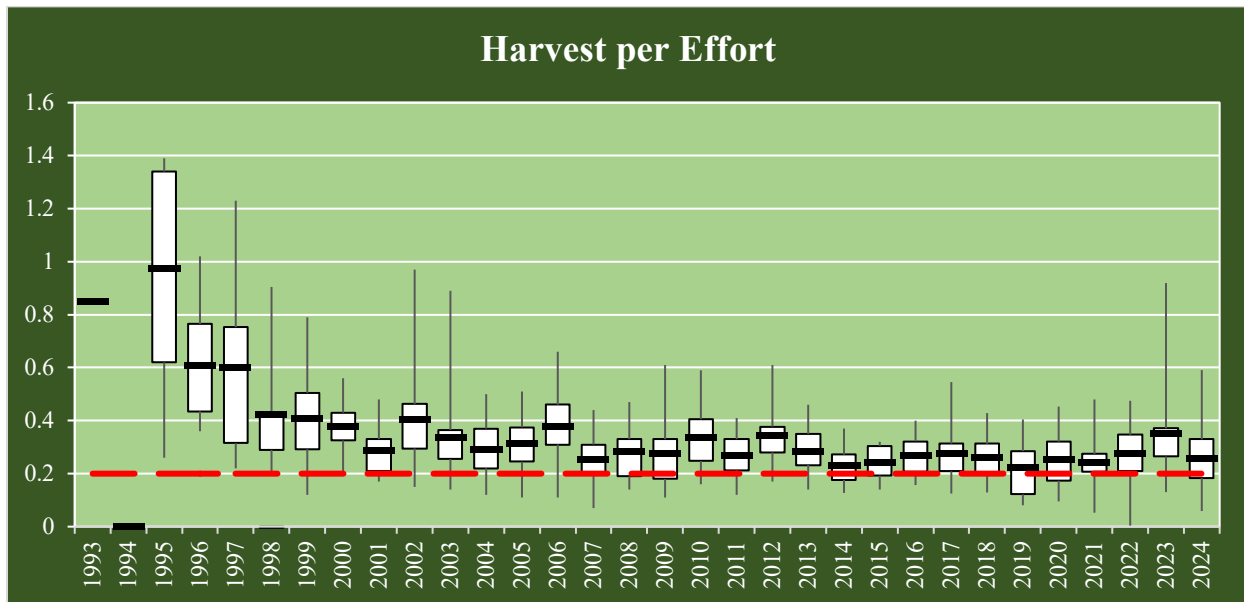


Figure 1. 1993-2024 Harvest per Effort. The center black bar indicates the mean H/E for each year. The white box indicates the first and third quartile. The whiskers (vertical black lines) represent the minimum and maximum H/E for each year. The red dashed line highlights the target of 0.20 H/E for firearms properties. Only one property was hunted in 1993, and no properties were hunted in 1994.

The trend for $H/Mi.^2$ is similar to that of H/E. The data for $H/Mi.^2$ also support 2024 being a return to trend levels in terms of normal harvest rates. The 2024 mean $H/Mi.^2$ decreased from 27.5 in 2023 to 19.7 in 2024 (Figure 2). The five-year mean $H/Mi.^2$ is 20.6. Seven firearms properties fell at or below the target $H/Mi.^2$ threshold after the 2024 hunts. All three archery properties fell at or below target $H/Mi.^2$ rates.

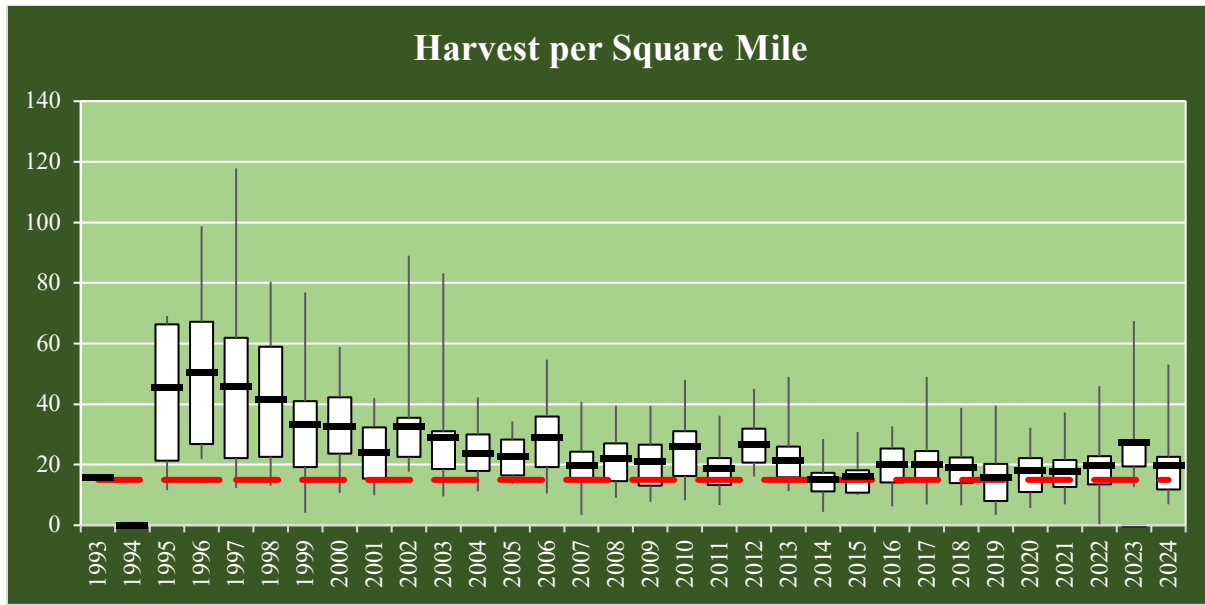


Figure 2. 1993-2024 Harvest per Square Mile. The center black bar indicates the mean H/Mi.² for each year. The white box indicates the first and third quartile. The whiskers (vertical black lines) represent the minimum and maximum H/Mi.² for each year. The red dashed line highlights the target of 15 H/Mi.² level for firearms properties. Only one property was hunted in 1993, and no properties were hunted in 1994.

New Properties

The management hunts in 2024 saw the second year of hunting for Raccoon State Recreation Area (Raccoon SRA), a unit within Cecil M. Harden Lake, and O'Bannon Woods State Park. While Cecil M. Harden Lake offers open hunting opportunities through normal, statewide deer hunting regulations, Raccoon SRA is normally a safety zone that is off-limits to hunting. This area contains a substantial amount of forest and offers a refuge for deer from normal hunting pressure.

O'Bannon Woods State Park was formerly known as Wyandotte Woods State Recreation Area and was managed as a sub-unit of Harrison-Crawford State Forest. Since becoming a state park in 2004, the property had not hosted deer hunting opportunities until 2023. Although the park is surrounded by the publicly huntable lands of Harrison-Crawford State Forest, the park is large enough that deer hunting outside the boundaries fails to manage the impacts of deer within the park. At both O'Bannon Woods and Raccoon SRA, localized impacts to forest vegetation were apparent in some areas, with tree seedlings and some wildflowers experiencing high browse pressure. The decision was made to include these properties in the 2023 hunts to begin reducing the impacts of overbrowsing.

O'Bannon Woods State Park offers 2,089 huntable acres of its overall 3.47 square miles. Raccoon SRA includes 550 huntable acres of its 0.85 square miles. Hunts at both properties were successful (see Table 2). O'Bannon Woods saw a H/E of 0.25, down from 0.40 in 2023, and a

H/Mi.² of 17.3, down from 23.9. Raccoon SRA saw a H/E of 0.33, down from 0.92 in 2023, and a H/Mi.² of 22.4, down from 67.1. Both properties were drawn at a rate of 1 hunter per 22 acres.

Adult Buck Harvest

The mean adult buck harvest has increased steadily since the management hunt program began. The current five-year mean adult buck harvest is 36%. A decade ago (2014) the five-year mean was 33%. The 2024 mean adult buck harvest is 38%, which is similar to the 2023 mean adult buck harvest of 39%. In 2024, 9 parks, or 38% of the properties, harvested more than 40% adult bucks (Figure 3). The current five-year mean for the percentage of parks exceeding a 40% adult buck harvest is 41%. This is greater than the five-year mean from a decade ago (2014) of 30%.

Overall, 2024 continued a stable trend over the last few years in the adult buck percentage, which maintains the long-term trend of an elevated harvest of adult bucks. At a few properties, the adult buck harvest consistently exceeds 40% of the total harvest. Such parks may need to switch into a disincentive model for hunters to help ensure that over-selective hunting is not occurring. Examples include “earn-a-buck” and antler removal by park staff at check stations. One must first harvest an antlerless deer before harvesting an antlered deer within the “earn-a-buck” model.

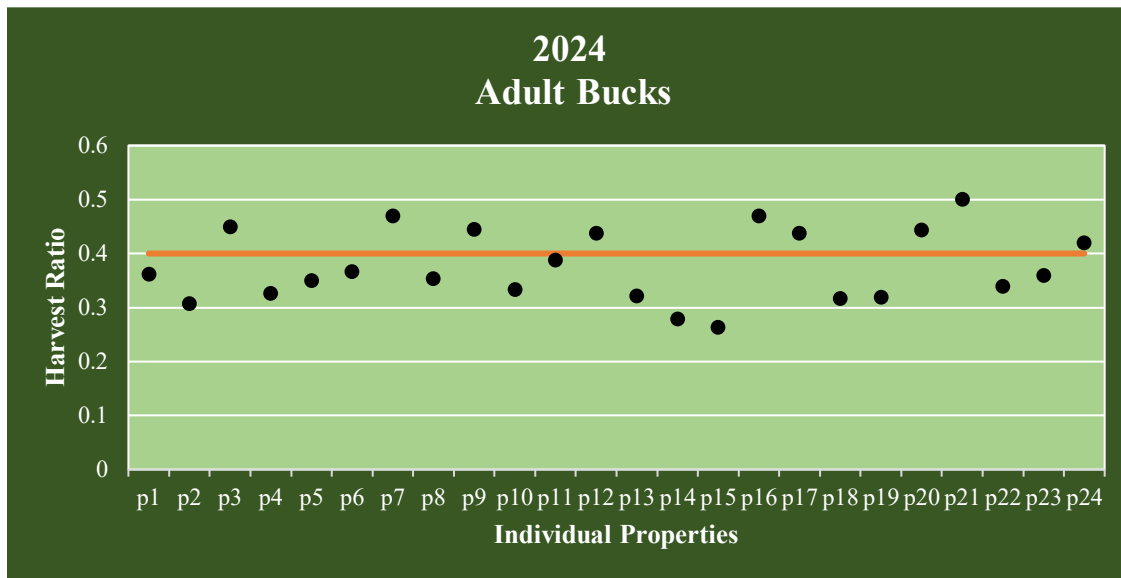


Figure 3. 2024 Adult Buck Harvest Percentage. Each label (p1-p17) represents one of the 24 properties hunted in 2024. Names are not given as to avoid encouraging selective harvest on these properties.

Standby Drawing

Standby drawings are sometimes held at parks in an attempt to fill spots left vacant by originally drawn hunters. The objective is to increase hunting pressure on deer. Participating properties are selected based on several factors, but they are generally experiencing no-show rates greater than 50% in recent years. These parks are also laid out in such a way that facilitates an ample staging

area for the drawing while providing staff ability to monitor and control potential standby hunters' entry into the park.

Participants in the standby drawing are chosen daily, on-site, and have to meet the same criteria as those originally drawn (Indiana residents or those in possession of a lifetime license for harvesting deer, 18 years of age by the date of the first hunt, and possession of a valid license to hunt deer in Indiana). Given the timing of the hunts and the elevated success rates, parks generally expect no-show rates between 25-30%. The average no-show rate for the first day of each hunt in 2024 was 29%. The overall average no-show rate was 44%. This is below the current five-year average no-show rate of 45%.

Standby drawings were held at several properties in 2024, in parks with historically high no-show rates. Standby hunters at these parks continue to contribute significantly to the harvest total. The success of standby drawings continues to be monitored and explored throughout the park system.

Summary

Though there is year to year variation in harvest per effort, statistics continue to illustrate overall success for the deer management program. The program has performed well at coming close to target harvest levels with 2024 showing overall average harvest metrics.

Though some parks are more successful than others at achieving a maintenance phase of taking a year off from management hunts every few years, the data continue to indicate habitat recovery as well as sustained deer populations. It should be reiterated that park management hunts are not intended to manage populations for optimal recreational hunting. The goal is simply to reduce the impact of browsing to a level that allows some of Indiana's rarest and most distinctive habitats to thrive and benefit multiple species.

As noted in previous reports, browse lines and emaciated deer are no longer a problem in state parks. The extreme overabundance issues of the 1990s have been corrected. However, less-obvious damage persists throughout the parks as a legacy of decades of chronic deer herbivory. In some areas, unpalatable plant species such as pawpaw (*Asimina triloba*) and spicebush (*Lindera benzoin*) are overrepresented in the understory. In addition to competing with other fauna for limited resources within park boundaries, deer continue to affect rare, threatened and endangered flora as well as valuable habitat such as oak forests. Other impacts include compromised

Property	Harvest
Brown County	178
Cave River Valley	26
Chain O'Lakes	98
Charlestown	98
Clifty Falls	20
Fort Harrison	43
Harmonie	83
Lincoln	58
McCormick's Creek	32
O'Bannon Woods	60
Ouabache	67
Pokagon	51
Potato Creek	134
Prophetstown	18
Raccoon	19
Shades	83
Shakamak	16
Spring Mill	43
Summit Lake	72
Tippecanoe River	142
Trine	2
Turkey Run	62
Versailles	112
Whitewater Memorial	50
Total	1,567

understory structure for ground- and shrub-nesting songbirds. Areas with high amounts of deer browse are also more susceptible to colonization by invasive plant species, such as Japanese stiltgrass (*Microstegium vimineum*). Invasive plant species further complicate ecological restoration and have severe negative impacts on wildlife habitat and plant diversity. Ongoing resource management projects will address lingering vegetation issues with mechanical and chemical treatment of target plant species.

The 2024 effort was once again a success in helping reduce and maintain browse effects. Cumulative 2024 harvest numbers are slightly higher than recent trends (Table 2). At the individual park level, numerous locations experienced harvest levels low enough to warrant removal from the 2025 management hunts.

Although there has been some concern voiced about the potential of overharvesting, it is clear that deer populations are still being sustained within parks. Harvest rates at parks consistently remain well above harvest rates on public properties open to deer hunting, such as reservoirs. Deer hunting continues to be a viable recreational pursuit, year in and year out, in such public hunting areas. A random sampling of harvest data from state reservoir properties on the first and second weekend of regular deer firearms season revealed an average H/E of 0.05. Park properties generally take a year off once the H/E is equal or below 0.20-0.22.

It should be noted that harvest totals alone have limited value in determining the success of a management hunt. Many factors such as park acreage, weather, rate of participation, and other local variables can influence an individual park's harvest from year to year. For this reason, H/E is the primary indicator of success rather than harvest numbers alone.

Pending a new regulatory approval, parks requiring management hunts in 2025 will be listed and applications made available at on.IN.gov/reservedhunt along with other DNR reserved hunts.