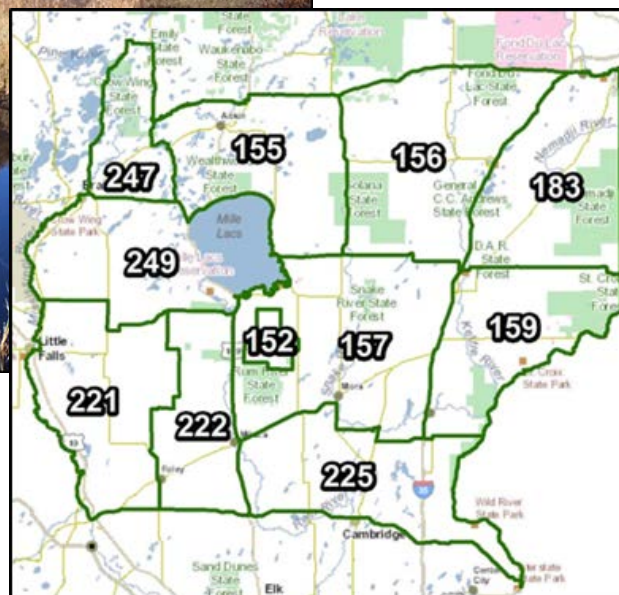




# Minnesota Deer Population Goals

## *East Central Uplands Goal Block*



Minnesota DNR – Section of Wildlife, 2015

## Final Deer Population Goals – Block 4: East Central Uplands

The following pages provide a description of the 2015 deer population goals, factors considered during goal setting, and management implications for each permit area in Block 4: East Central Uplands (deer permit areas 152, 155, 156, 157, 159, 183, 221, 222, 225, 247 and 249).

Final population goals were developed through a public engagement process, including collecting public comment (via public meetings, online and written questionnaires, mail and email) and convening citizen advisory teams to review information and make recommendations on population goals to DNR. Goals are anticipated to be revisited in 3-5 years (2018-2020). Information incorporated into the final decision includes<sup>1</sup>:

- [Block 4 Hunter and Landowner Survey Reports](#)
- [Block 4 Team Information Packet](#) and Addendum
- [2014 Harvest Report](#)
- Public comment received during comment periods in winter and spring 2015
- [Block 4 Advisory Team Recommendations](#)
- Input from Area and Regional staff

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<sup>1</sup> Goal setting materials are linked for convenience; source materials with additional detail are cited on the last page.

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## Deer Permit Area 152

This deer permit area is comprised entirely of Mille Lacs Wildlife Management area. The WMA was established in 1949. Sixty percent of the WMA is forested, with the remainder of land being wetlands, bogs and forest openings. Many fields around the area are planted with corn or maintained as hay land. Forests on the WMA are managed to promote an interspersions of different aged plant communities and enhance wildlife diversity. Logging of hardwood and aspen stands create forest openings and edges between existing vegetation types.

### 2015 Deer Population Goal:

**Increase the population 50%, relative to 2014 population, over the next 3-5 years**

### Summary of decision

A majority (67%) of hunters surveyed in this permit area preferred a population increase, with the greatest number (50%) preferring an increase of 25%. Private landowners were not surveyed about this permit area because it is entirely public land (Mille Lacs Wildlife Management Area). Public comment collected via online and written questionnaires in winter 2015 showed that a majority (77%) of questionnaire respondents preferred a population increase, with the greatest number (50%) preferring an increase of 50%. After reviewing biological and social data for this permit area, the deer advisory team recommended a population increase of 50%; factors considered included harvest levels, hunter success rates, hunter satisfaction rates, permit area size and location, and more. Public comment collected in spring 2015 showed that approximately 72% of commenters supported or were ok with the team's recommendation. The Department decided to manage for an increased deer population in recognition of the advisory team recommendation, stakeholder desires, and public support for team recommendations. Additional monitoring of population goal impacts is anticipated in this area due to the discrepancy between the team recommendation and the range of stakeholder desires (stakeholder hunter surveys suggested that 50% of hunters would like to see an increase of 25% and the remaining were divided between a decrease, no change or increase of 10%). Negative impacts on recent oak regeneration investments made on this WMA are also anticipated.

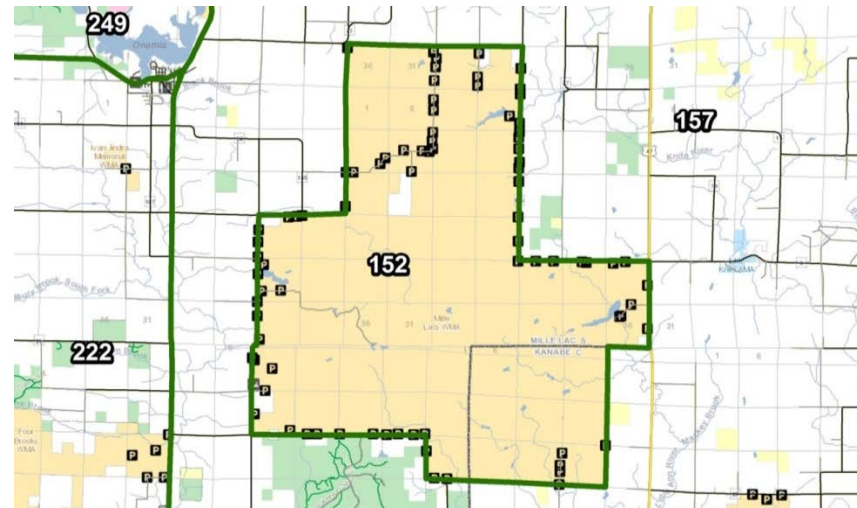
### Management implications

- This recommendation will result in management for population levels below those directed by previous goals.
- Because the population is not modeled (due to the permit area's small size), a target density is not available. Trends in harvest indices, WSI, and field observations will be used to assess population status.
- If milder winter conditions continue, very conservative management strategies are anticipated for the next few years to move the population toward goal in this fairly productive area.
- In light of oak management objectives for this area, additional monitoring of deer browse impacts will be needed.

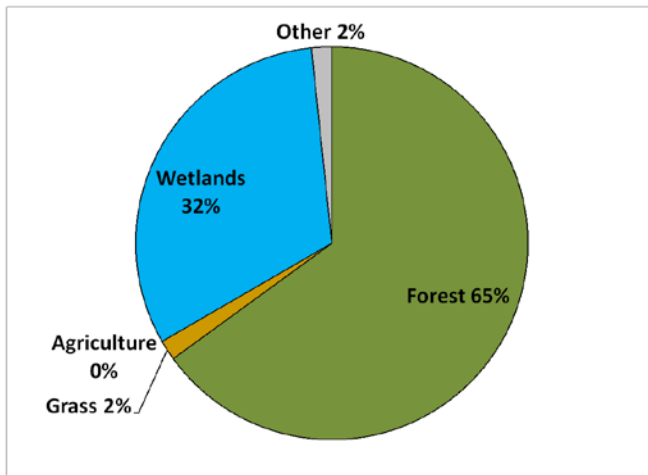
**Deer Permit Area:** 152  
**Size of Deer Permit Area:** 62 square miles total; 61 square miles of land.  
**2015 Population Goal:** Increase the population 50%, relative to 2014 population, over the next 3-5 years.  
**Comments:** This area is Mille Lacs WMA and is not modeled due to small size.

Year	Mgmt. Designation	No. Firearm Hunters	Firearm Success (%)	Reported Deer Harvest (All seasons)		
				Total	Bucks	Antlerless
2005	Lottery (300)	986	27%	271	141	130
2006	Lottery (350)	1023	32%	330	158	172
2007	Managed	1052	36%	377	149	228
2008	Managed	1000	29%	293	126	167
2009	Managed	1204	31%	375	160	215
2010	Lottery (500)	936	25%	234	134	100
2011	Hunter's Choice	946	22%	211	106	105
2012	Hunter's Choice	948	21%	197	101	96
2013	Hunter's Choice	939	22%	203	80	123
2014	Lottery (200)	838	13%	105	66	39

**Deer Permit Area:** 152  
**Size of Deer Permit Area:** 62 square miles total;  
61 square miles of land



**Habitat Categories:**



**2014 Model Output**

This permit area is not modeled due to small size.

## Deer Permit Area 155

This permit area contains large amounts of public land interspersed with private ownership. Half of the permit area is wetland with the remaining area covered by forestland and agriculture (hay, pasture, and agricultural crops). The interspersed agriculture and forest has supported a high deer population which at times has created localized depredation issues for agricultural producers. Public land managers are interested in regenerating pine and oak in portions of this permit area and have some concerns about deer damage to tree regeneration.

### 2015 Deer Population Goal:

**Increase the population 25%, relative to 2014 population, over the next 3-5 years**

#### Summary of decision

A majority (73%) of hunters surveyed in this permit area preferred a population increase, with the greatest number (29%) preferring an increase of 25%. A majority (72%) of landowners surveyed in this permit area preferred a population increase, with the greatest number (30%) preferring an increase of 10%. Public comment collected via online and written questionnaires in winter 2015 showed that a majority (74%) of questionnaire respondents preferred a population increase, with the greatest number (51%) preferring an increase of 50%. After reviewing biological and social data for this permit area, the deer advisory team recommended increasing the population 50%; factors considered included winter weather impacts, hunter success rates, hunting pressure, deer browse impacts, carrying capacity and more. Public comment collected in spring 2015 showed that approximately 86% of commenters supported or were ok with the team's recommendation. The Department decided to manage for an increased deer population in recognition of the advisory team recommendation, broader stakeholder desires, and public support for team recommendations. A goal for a more moderate (25%) increase in the deer population reflects a balance between the stakeholder desires for more deer, recognition that most stakeholders desire more moderate increases, and concerns that management to achieve significantly higher deer densities would result in lower harvest opportunity in the short- and long-term, as well as concerns about anticipated browsing impacts.

#### Management implications

- This recommendation will result in management for population levels above those directed by previous goals.
- The Department will aim for a target density of 18-22 deer per square mile (dpsm) of land area (pre-fawn) based on the 2014 model estimate of 13-19 dpsm<sup>2</sup>. In addition to trends indicated by the population model estimates, trends in harvest indices, WSI, and field observations will be used to assess population status.

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<sup>2</sup> Note that, similar to a weather forecast or budget forecast, model estimates may change over time as new information is incorporated into the model. For example, DNR deer population modeling occurs each spring prior to setting deer seasons. If the winter persists beyond the date when population estimates are

- If milder winter conditions continue, conservative management strategies are anticipated for the next few years to move the population toward goal in this area.
- Recent oak and pine regeneration successes are likely to be negatively impacted by an increase in the deer population, impacting wildlife habitat and forest management.

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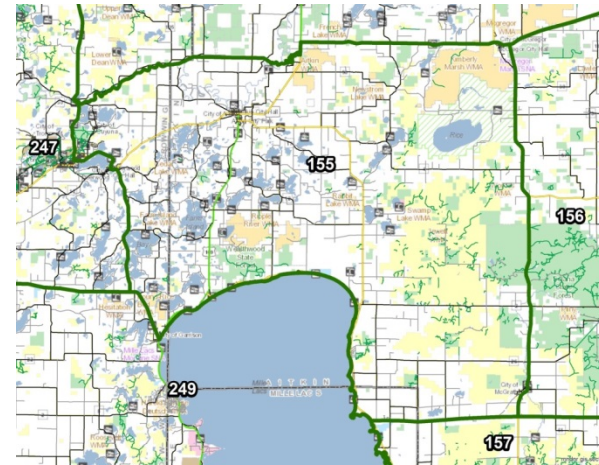
developed, the estimate for that year may be different in the following year once the final data on winter severity can be included. In that case, DNR will assess the trend in the population based on the most up-to-date estimate of the 2014 population and best available data, along with other population indices.



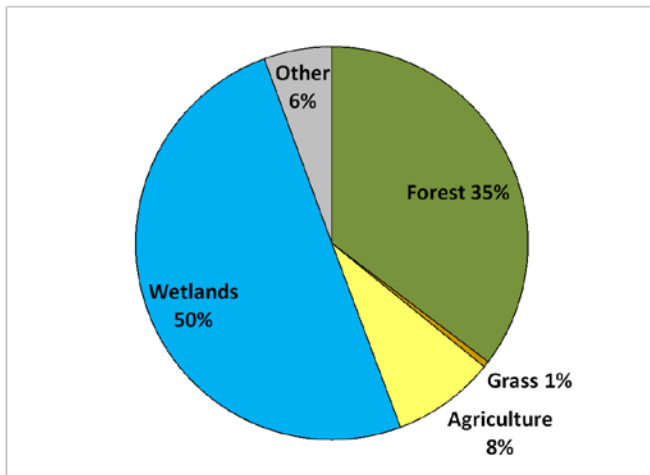
**Deer Permit Area:** 155  
**Size of Deer Permit Area:** 639 square miles total; 593 square miles of land.  
**2015 Population Goal:** Increase the population 25%, relative to 2014 population, over the next 3-5 years.  
**Comments:** Deer Permit Area 155 was established in 2010.

Year	Mgmt. Designation	No. Firearm Hunters	Firearm Success (%)	Reported Deer Harvest (All seasons)		
				Total	Bucks	Antlerless
2010	Lottery (3500)	7080	41%	2930	1616	1314
2011	Hunter's Choice	7353	41%	2985	1487	1498
2012	Hunter's Choice	7781	42%	3234	1646	1588
2013	Hunter's Choice	7823	35%	2760	1350	1410
2014	Lottery (500)	7536	19%	1441	998	443

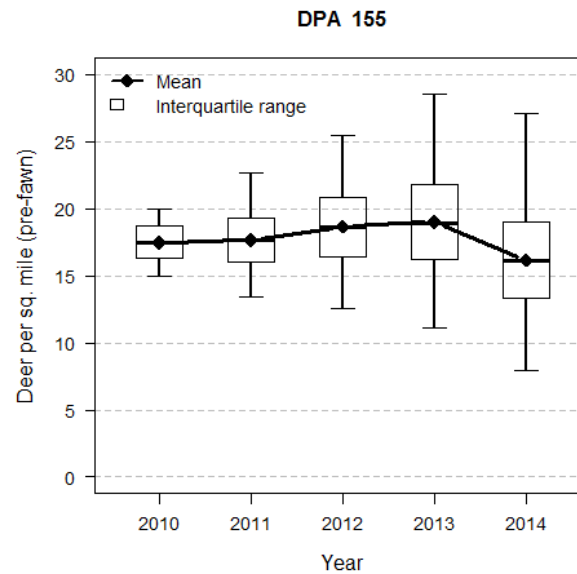
**Deer Permit Area:** 155  
**Size of Deer Permit Area:** 639 square miles total;  
 593 square miles of land



**Habitat Categories:**



**2014 Model Output:**



## Deer Permit Area 156

This deer permit area (DPA) is bounded by Cromwell to the north, Moose Lake to the east and McGrath to the southwest. Topography and habitats are variable. DPA 156 includes forested and brushy wetlands and upland forest with some agricultural land interspersed throughout the area. Public lands including wildlife management areas, state forests (Solana, General Andrews, and Fond du Lac), county lands and portions of two state parks (Banning and Moose Lake) occur in the permit area. This unit has had some agricultural depredation issues in the past, but complaints have tapered off with lower deer populations in recent years.

### 2015 Deer Population Goal:

**Increase the population 50%, relative to 2014 population, over the next 3-5 years**

#### Summary of decision

A majority (87%) of hunters surveyed in this permit area preferred a population increase, with the greatest number (37%) preferring an increase of 25%. A majority (82%) of landowners surveyed in this permit area preferred a population increase, with the greatest number (62%) being tied between preferring a 10% increase and preferring a 25% increase. Public comment collected via online and written questionnaires in winter 2015 showed a majority (80%) of questionnaire respondents preferred a population increase, with the greatest number (52%) preferring an increase of 50%. After reviewing biological and social data for this permit area, the deer advisory team recommended a population increase of 50%. Factors considered in the team discussion included harvest levels, hunter satisfaction and success rates, agricultural impacts, winter weather impacts, wolves and more. Public comment collected in spring 2015 showed that approximately 85% of commenters supported or were ok with the team's recommendation. The Department decided to manage for an increased deer population in recognition of the advisory team recommendation, broader stakeholder desires, and public support for team recommendations.

#### Management implications

- This recommendation will result in management for population levels above those directed by previous goals.
- The Department will aim for a target density of 13-17 deer per square mile (dpsm) of land area (pre-fawn) based on the 2014 model estimate of 8-12 dpsm<sup>3</sup>. In addition to trends indicated by the population model estimates, trends in harvest indices, WSI, and field observations will be used to assess population status.

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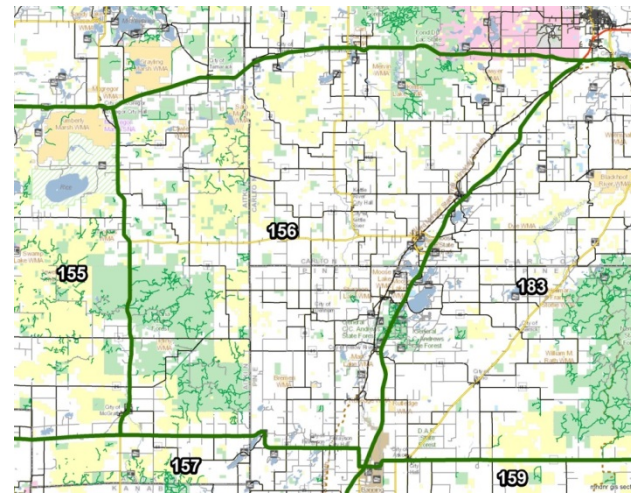
<sup>3</sup> Note that, similar to a weather forecast or budget forecast, model estimates may change over time as new information is incorporated into the model. For example, DNR deer population modeling occurs each spring prior to setting deer seasons. If the winter persists beyond the date when population estimates are developed, the estimate for that year may be different in the following year once the final data on winter severity can be included. In that case, DNR will assess the trend in the population based on the most up-to-date estimate of the 2014 population and best available data, along with other population indices.

- If milder winter conditions continue, conservative management strategies are anticipated for the next few years to move the population toward goal in this area.

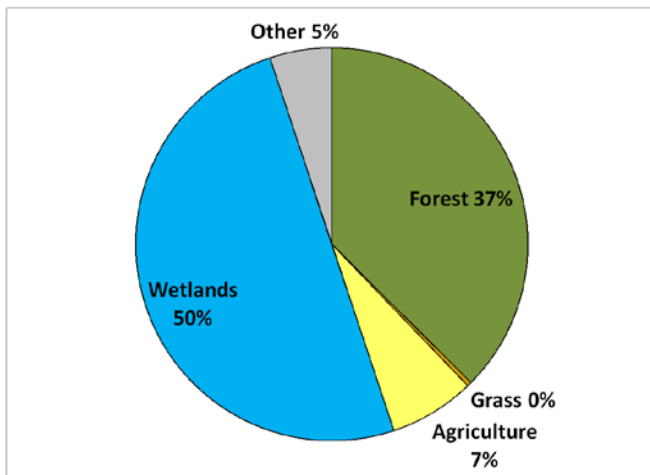
**Deer Permit Area:** 156  
**Size of Deer Permit Area:** 834 square miles total; 825 square miles of land.  
**2015 Population Goal:** Increase the population 50%, relative to 2014 population, over the next 3-5 years.

Year	Mgmt. Designation	No. Firearm Hunters	Firearm Success (%)	Reported Deer Harvest (All seasons)		
				Total	Bucks	Antlerless
2005	Intensive	9127	49%	4466	1793	2673
2006	Intensive	8681	55%	4749	1871	2878
2007	Intensive	8863	58%	5164	2068	3096
2008	Intensive	8776	51%	4488	1831	2657
2009	Managed	9074	47%	4241	1938	2303
2010	Managed	8941	51%	4584	2084	2500
2011	Intensive	9390	48%	4486	1721	2765
2012	Managed	9498	46%	4361	1813	2548
2013	Managed	9587	34%	3287	1399	1888
2014	Lottery (300)	8530	16%	1333	1039	294

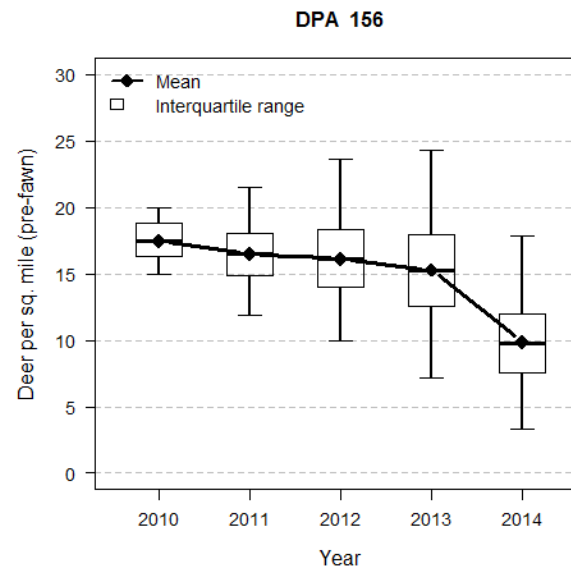
**Deer Permit Area:** 156  
**Size of Deer Permit Area:** 834 square miles total;  
 825 square miles of land



**Habitat Categories:**



**2014 Model Output:**



## Deer Permit Area 157

This is a rural permit area with a mixture of woods and agricultural land. This is a highly productive deer population in excellent deer habitat. The deer population has been relatively stable with a few recent complaints of deer damage to alfalfa fields and corn silage on dairy farms.

### 2015 Deer Population Goal:

**Increase the population 25%, relative to 2014 population, over the next 3-5 years**

### Summary of decision

A majority (79%) of hunters surveyed in this permit area preferred a population increase, with the greatest numbers (29% each) tied between preferring an increase of 10% and preferring an increase of 25%. A majority (64%) of landowners surveyed in this permit area preferred a population increase, with the greatest number (28%) preferring an increase of 25%. Public comment collected via online and written questionnaires in winter 2015 showed a majority (80%) of questionnaire respondents preferred a population increase, with the greatest number (49%) preferring an increase of 50%. After reviewing biological and social data for this permit area, the deer advisory team recommended a population increase of 50%; factors considered included hunting pressure, hunter success rates, harvest levels, winter weather impacts, agricultural impacts, ecosystem health and more. Public comment collected in spring 2015 showed that approximately 88% of commenters supported or were ok with the team's recommendation. The Department decided to manage for an increased deer population in recognition of the advisory team recommendation, the range of stakeholder desires, and public support for team recommendations. However, the decision for a more moderate (25%) increase in the deer population reflects a balance between the stakeholder desires for more deer and concerns that management to achieve significantly higher densities would result in lower harvest opportunity in the short- and long-term, as well as concerns about anticipated browsing impacts. Agriculture in this permit area may mitigate browsing damage to habitat, potentially resulting in increased depredation complaints and social conflict.

### Management implications

- This recommendation will result in management for population levels above those directed by previous goals.
- The Department will aim for a target density of 18-22 deer per square mile (dpsm) of land area (pre-fawn) based on the 2014 model estimate of 13-18 dpsm<sup>4</sup>. In addition to trends indicated by the population model estimates, trends in harvest indices, WSI, and field observations will be used to assess population status.

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<sup>4</sup> Note that, similar to a weather forecast or budget forecast, model estimates may change over time as new information is incorporated into the model. For example, DNR deer population modeling occurs each spring prior to setting deer seasons. If the winter persists beyond the date when population estimates are

- If milder winter conditions continue, conservative management strategies are anticipated for the next few years to move the population toward goal in this area.

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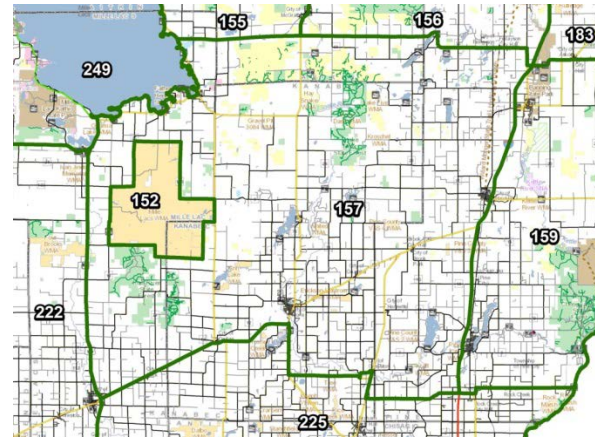
developed, the estimate for that year may be different in the following year once the final data on winter severity can be included. In that case, DNR will assess the trend in the population based on the most up-to-date estimate of the 2014 population and best available data, along with other population indices.



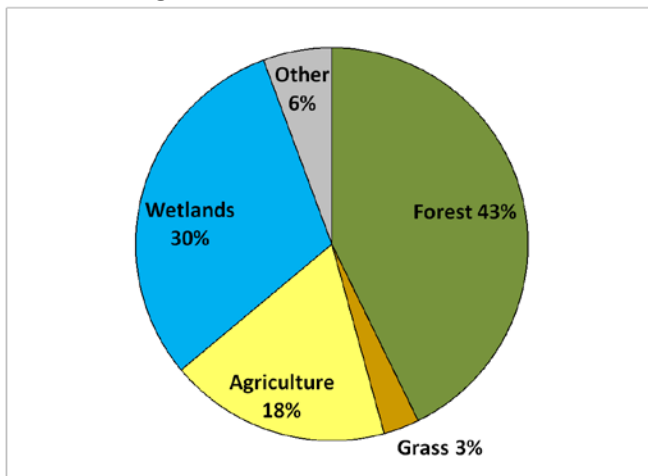
**Deer Permit Area:** 157  
**Size of Deer Permit Area:** 900 square miles total; 673 square miles of land.  
**2015 Population Goal:** Increase the population 25%, relative to 2014 population, over the next 3-5 years.

Year	Mgmt. Designation	No. Firearm Hunters	Firearm Success (%)	Reported Deer Harvest (All seasons)		
				Total	Bucks	Antlerless
2005	Intensive	13712	50%	6901	2745	4156
2006	Intensive	12619	63%	7989	2916	5073
2007	Intensive	12808	61%	7828	2832	4996
2008	Intensive	12933	49%	6287	2340	3947
2009	Managed	12396	44%	5485	2466	3019
2010	Managed	12538	52%	6568	2960	3608
2011	Intensive	13244	47%	6234	2536	3698
2012	Managed	13588	42%	5697	2615	3082
2013	Managed	13643	40%	5448	2303	3145
2014	Hunter's Choice	13654	29%	3958	1894	2064

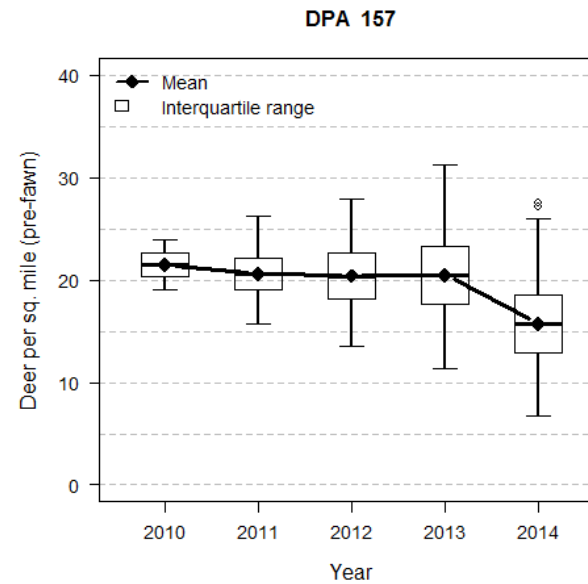
**Deer Permit Area:** 157  
**Size of Deer Permit Area:** 900 square miles total;  
 673 square miles of land



**Habitat Categories:**



**2014 Model Output:**



## Deer Permit Area 159

This deer permit area has extensive forested public lands along the eastern third of the area. St Croix State Park, St. Croix State Forest, and Chengwatana State Forest constitute the bulk of this public land. Remaining lands include forested and agricultural private lands. St Croix State Park has special archery and firearms hunts each fall. Several windstorm blowdown events have occurred in this area in recent years creating extensive areas of young forest. Effects of these storms have increased deer foraging area yet decreased important winter thermal cover. The long-term influence of these storms on deer populations, if any, is yet to be determined. This unit has had some agricultural depredation issues in the past, but complaints have tapered off with lower deer populations in recent years.

### 2015 Deer Population Goal:

**Increase the population 50%, relative to 2014 population, over the next 3-5 years**

### Summary of decision

A majority (82%) of hunters surveyed in this permit area preferred a population increase, with the greatest number (40%) preferring an increase of 25%. A majority (77%) of landowners surveyed in this permit area preferred a population increase, with the greatest number (35%) preferring an increase of 25%. Public comment collected via online and written questionnaires in winter 2015 showed that a majority (82%) of questionnaire respondents preferred a population increase, with the greatest number (61%) preferring an increase of 50%. After reviewing biological and social data for this permit area, the deer advisory team recommended a population increase of 50%. Factors considered in the team's discussion included predator (wolf and coyote) populations, harvest levels, hunter satisfaction rates, habitat availability, carrying capacity and more. Public comment collected in spring 2015 showed that approximately 82% of commenters supported or were ok with the team's recommendation. The Department decided to manage for an increased deer population in recognition of the advisory team recommendation, broader stakeholder desires, and public support for team recommendations.

### Management implications

- This recommendation will result in management for population levels similar those directed by previous goals.
- The Department will aim for a target density of 16-20 deer per square mile (dpsm) of land area (pre-fawn) based on the 2014 model estimate of 10-15 dpsm<sup>5</sup>. In addition to trends indicated by the population model estimates, trends in harvest indices, WSI, and field observations will be used to assess population status.

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<sup>5</sup> Note that, similar to a weather forecast or budget forecast, model estimates may change over time as new information is incorporated into the model. For example, DNR deer population modeling occurs each spring prior to setting deer seasons. If the winter persists beyond the date when population estimates are

- If milder winter conditions continue, conservative-to-moderate management strategies are anticipated for the next few years to move the population toward goal in this area.

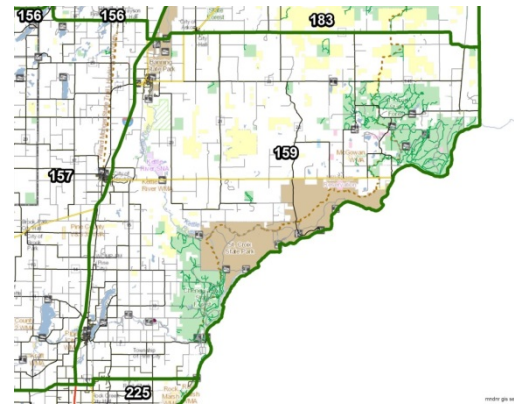
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developed, the estimate for that year may be different in the following year once the final data on winter severity can be included. In that case, DNR will assess the trend in the population based on the most up-to-date estimate of the 2014 population and best available data, along with other population indices.

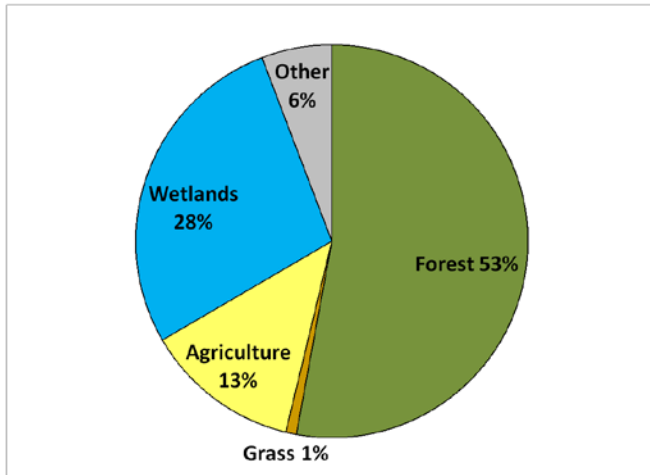
**Deer Permit Area:** 159  
**Size of Deer Permit Area:** 579 square miles total; 571 square miles of land.  
**2015 Population Goal:** Increase the population 50%, relative to 2014 population, over the next 3-5 years.

Year	Mgmt. Designation	No. Firearm Hunters	Firearm Success (%)	Reported Deer Harvest (All seasons)		
				Total	Bucks	Antlerless
2005	Intensive	7914	46%	3672	1467	2205
2006	Intensive	7243	50%	3603	1479	2124
2007	Intensive	6882	56%	3847	1609	2238
2008	Intensive	7140	45%	3211	1233	1978
2009	Managed	6955	44%	3030	1366	1664
2010	Managed	6934	48%	3341	1524	1817
2011	Intensive	7232	40%	2902	1212	1690
2012	Hunter's Choice	7184	31%	2220	1182	1038
2013	Hunter's Choice	7284	31%	2277	1145	1132
2014	Lottery (500)	6514	17%	1124	824	300

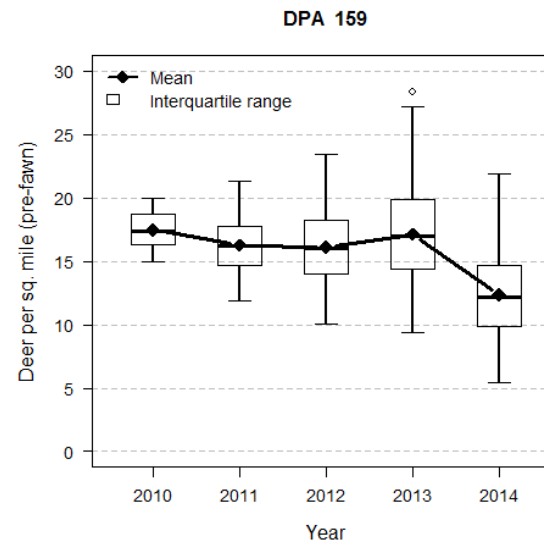
**Deer Permit Area:** 159  
**Size of Deer Permit Area:** 579 square miles total;  
 571 square miles of land



**Habitat Categories:**



**2014 Model Output:**



## Deer Permit Area 183

This deer permit area is a mix of agricultural and forested habitat. The east side of this permit area is dominated by heavily forested, public lands, while the western portion has more agriculture and private land. Deer numbers are generally higher in the western portion of the permit area. Substantial public lands including the Nemadji State Forest, Blackhoof WMA, Jay Cooke State Park and large blocks of county land are primarily east of highway 23. The dissected drainages, particularly the Nemadji and Blackhoof drainages, provide important deer wintering areas. Jay Cooke State Park occurs within the north end of the permit area and has a special muzzle loader hunt each fall. Landowner complaints about deer have been rare, with only a few requesting assistance to deter deer depredation.

### 2015 Deer Population Goal:

**Increase the population 50%, relative to 2014 population, over the next 3-5 years**

#### Summary of decision

A majority (85%) of hunters surveyed in this permit area preferred a population increase, with the greatest numbers (34% each) tied between preferring a 25% increase and preferring a 50% increase. A majority (62%) of landowners surveyed in this permit area preferred a population increase, but approximately one third (30%) preferred no change. Public comment collected via online and written questionnaires in winter 2015 showed that a majority (78%) of questionnaire respondents preferred a population increase, with the greatest number (55%) preferring an increase of 50%. After reviewing biological and social data for this permit area, the deer advisory team did not reach consensus on a recommendation for this permit area, but a majority of team members preferred an increase of 50% or higher. Factors considered in the team's discussion included hunter success and satisfaction rates, harvest levels, predator populations, consistency of management and population goals, and more. Public comment collected in spring 2015 showed that a majority of commenters preferred a population increase. The Department decided to manage for an increase in the deer population in recognition of individual advisory team member preferences and the range stakeholder desires (although public input and surveys would suggest a more moderate increase). The most common recommendation from the second comment period was to increase by 50% or more (although there were also participants advocating for significant declines). While a more moderate increase would likely allow a greater annual harvest, the Department recognizes the strong desire for more deer on the landscape in this area. It is questionable whether a 50% population increase is achievable in this area without continued conservative management and reduced harvest opportunities.

#### Management implications

- This recommendation will result in management for population levels above those directed by previous goals. If the goal is met, populations will be similar or above those experienced during peak population years.

- The Department will aim for a target density of 18-24 deer per square mile (dpsm) of land area (pre-fawn) based on the 2014 model estimate of 12-16 dpsm<sup>6</sup>. In addition to trends indicated by the population model estimates, trends in harvest indices, WSI, and field observations will be used to assess population status.
- If milder winter conditions continue, very conservative management strategies are anticipated for the next few years to move the population toward goal in this area. The permit area has been under Lottery or Hunter's Choice designations for the past 6 years; it is questionable whether the population goal is attainable in the short-term, even under conservative management.
- Browse-related impacts on forest vegetation and wildlife habitat are anticipated with this significant population increase.

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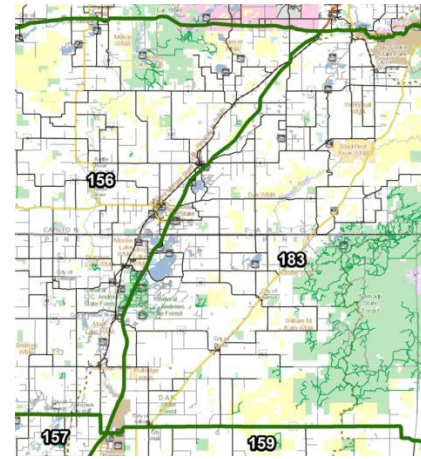
<sup>6</sup> Note that, similar to a weather forecast or budget forecast, model estimates may change over time as new information is incorporated into the model. For example, DNR deer population modeling occurs each spring prior to setting deer seasons. If the winter persists beyond the date when population estimates are developed, the estimate for that year may be different in the following year once the final data on winter severity can be included. In that case, DNR will assess the trend in the population based on the most up-to-date estimate of the 2014 population and best available data, along with other population indices.



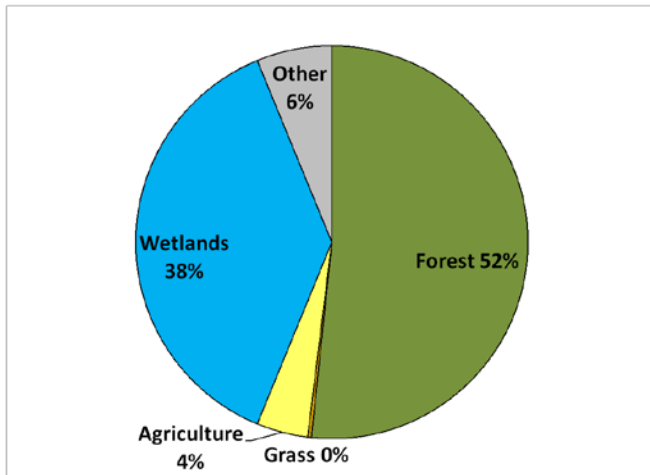
**Deer Permit Area:** 183  
**Size of Deer Permit Area:** 675 square miles total; 663 square miles of land.  
**2015 Population Goal:** Increase the population 50%, relative to 2014 population, over the next 3-5 years.

Year	Mgmt. Designation	No. Firearm Hunters	Firearm Success (%)	Reported Deer Harvest (All seasons)		
				Total	Bucks	Antlerless
2005	Managed	7607	45%	3449	1514	1935
2006	Intensive	7352	54%	4005	1634	2371
2007	Managed	7465	50%	3747	1745	2002
2008	Managed	7146	43%	3061	1429	1632
2009	Lottery (2500)	7197	30%	2194	1409	785
2010	Lottery (4500)	7524	32%	2439	1382	1057
2011	Hunter's Choice	7504	33%	2504	1306	1198
2012	Lottery (2500)	7649	39%	2957	2148	809
2013	Lottery (2500)	7773	25%	1972	1204	768
2014	Lottery (100)	7215	14%	1018	784	234

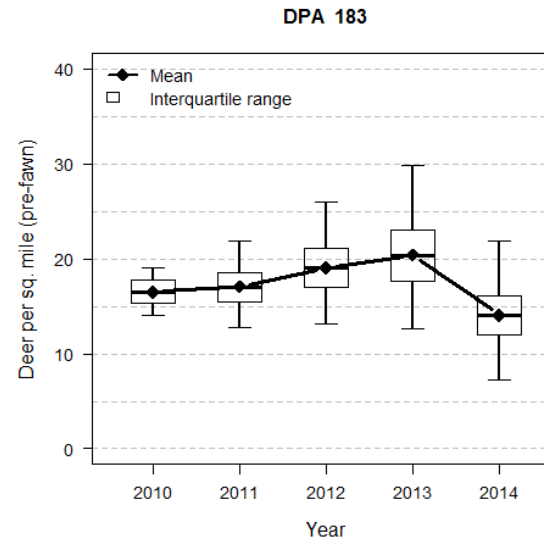
**Deer Permit Area:** 183  
**Size of Deer Permit Area:** 675 square miles total;  
**Area:** 663 square miles of land



**Habitat Categories:**



**2014 Model Output:**



## Deer Permit Area 221

This area is mostly rural, open agricultural land, with only 16% of the permit area comprised of moderate to good forested deer habitat. Deer numbers have been robust and relatively stable despite attempts to manage the herd with liberal harvest regulations the past decade. DNR has received a few complaints of deer damage to standing row crops, specialty crops, and stored forage where deer densities are highest.

### 2015 Deer Population Goal:

**Increase the population 50%, relative to 2014 population, over the next 3-5 years**

### Summary of decision

A majority (66%) of hunters surveyed in this permit area preferred a population increase, but approximately one quarter (27%) preferred no change. Landowners surveyed in this permit area were divided between preferring no change in the population and preferring a population increase, with the greatest number (40%) preferring no change. Public comment collected via online and written questionnaires in winter 2015 showed that a majority (76%) of questionnaire respondents preferred a population increase, with the greatest number (51%) preferring an increase of 50%. After reviewing biological and social data for this permit area, the deer advisory team recommended a population increase of 50%. Factors considered in the team's discussion included deer "hot spots" (local pockets of higher deer populations), hunter satisfaction rates, harvest levels, available habitat, damage to forests and more. Public comment collected in spring 2015 showed that approximately 82% of commenters supported or were ok with the team's recommendation. The Department decided to manage for an increased deer population in recognition of the advisory team recommendation and public support for team recommendations. As a result, target densities in this area are anticipated to be at or above the peak levels seen in the mid-2000s. Due to survey data that suggest support for a more moderate increase in this area and the potential for increased social conflicts (e.g., in association with agriculture), additional monitoring of population goal impacts is anticipated in this permit area.

### Management implications

- This recommendation will result in management for population levels above those directed by previous goals. If the goal is met, populations will be above those experienced during peak population years.
- The Department will aim for a target density of 16-20 deer per square mile (dpsm) of land area (pre-fawn) based on the 2014 model estimate of 8-16 dpsm<sup>7</sup>. In addition to trends indicated by the population model estimates, trends in harvest indices, WSI, and field observations will be used to assess population status.

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<sup>7</sup> Note that, similar to a weather forecast or budget forecast, model estimates may change over time as new information is incorporated into the model. For example, DNR deer population modeling occurs each spring prior to setting deer seasons. If the winter persists beyond the date when population estimates are

- If milder winter conditions continue, conservative-to-moderate management strategies are anticipated for the next few years to move the population toward goal in this very productive area.
- Browse-related impacts on forest vegetation and wildlife habitat are anticipated with this significant population increase. Deer-related depredation on row crops, stored forage and specialty crops is also anticipated to increase.

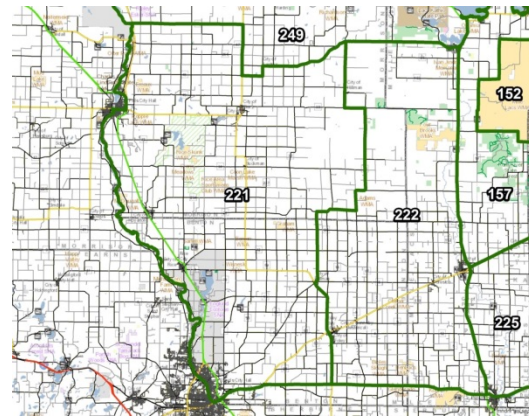
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developed, the estimate for that year may be different in the following year once the final data on winter severity can be included. In that case, DNR will assess the trend in the population based on the most up-to-date estimate of the 2014 population and best available data, along with other population indices.

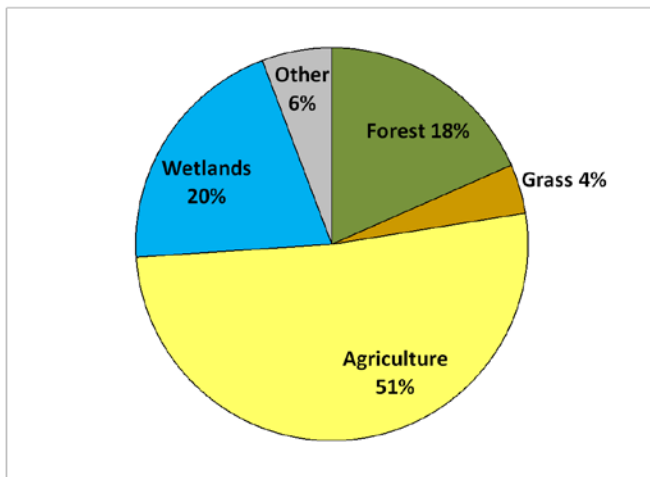
**Deer Permit Area:** 221  
**Size of Deer Permit Area:** 647 square miles total; 642 square miles of land.  
**2015 Population Goal:** Increase the population 50%, relative to 2014 population, over the next 3-5 years.

Year	Mgmt. Designation	No. Firearm Hunters	Firearm Success (%)	Reported Deer Harvest (All seasons)		
				Total	Bucks	Antlerless
2005	Intensive	5200	55%	2873	1063	1810
2006	Intensive	4609	70%	3249	1102	2147
2007	Intensive	4875	74%	3609	1131	2478
2008	Intensive	4887	59%	2866	1002	1864
2009	Intensive	4776	58%	2781	1050	1731
2010	Intensive	4783	68%	3258	1168	2090
2011	Intensive	5022	57%	2880	1026	1854
2012	Managed	4934	53%	2635	1075	1560
2013	Intensive	5405	59%	3181	1202	1979
2014	Hunter's Choice	5689	41%	2337	1114	1223

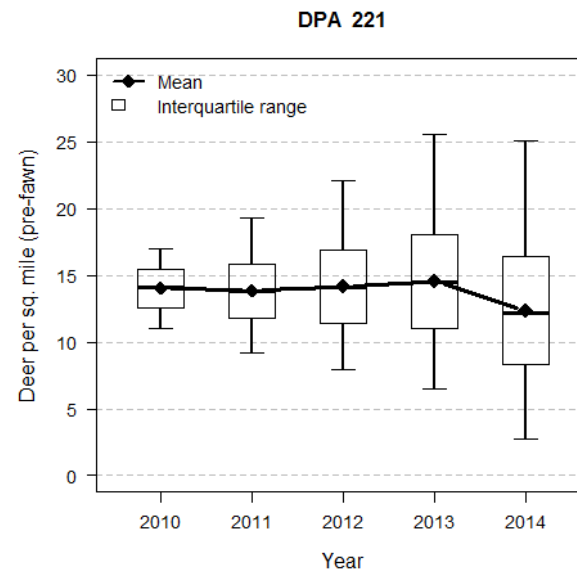
**Deer Permit Area:** 221  
**Size of Deer Permit Area:** 647 square miles total;  
 642 square miles of land



**Habitat Categories:**



**2014 Model Output:**



## Deer Permit Area 222

This deer permit area (DPA) is mostly rural with a mixture of woods and agricultural land. The north portion of this permit area is more wooded and is excellent deer habitat; the southern portion of the area has a greater agricultural component on the landscape. DPA 222 has a very productive deer population; population metrics indicate the deer numbers have been stable despite intensive harvest (since 2003) and early antlerless strategies three of the past 10 years.

### 2015 Deer Population Goal:

**Increase the population 50%, relative to 2014 population, over the next 3-5 years**

### Summary of decision

A majority (69%) of hunters surveyed in this permit area preferred a population increase, with the greatest number (33%) preferring an increase of 10%. A majority (57%) of landowners surveyed in this permit area preferred a population increase, but approximately one quarter (27%) preferred no change. Public comment collected via online and written questionnaires in winter 2015 showed that a majority (77%) of questionnaire respondents preferred a population increase, with the greatest number (47%) preferring an increase of 50%. After reviewing biological and social data for this permit area, the deer advisory team recommended a population increase of 50%. Factors considered in the team's discussion included hunting pressure, hunter success and satisfaction rates, carrying capacity, forest regeneration and more. Public comment collected in spring 2015 showed that approximately 86% of commenters supported or were ok with the team's recommendation. The Department has decided to manage for an increased deer population in recognition of the advisory team recommendation and public support for team recommendations. However, due to the divergent stakeholder interests, additional monitoring of population goal impacts is anticipated in this area. Agriculture in the area may mitigate some of the browse impacts on habitat, potentially resulting in additional depredation and social conflicts. Management toward goal is anticipated to result in unprecedented population levels for this area. This is likely to require conservative management strategies and associated reductions in harvest opportunity over the short- and long-term.

### Management implications

- This recommendation will result in management for population levels above those directed by previous goals. If the goal is met, populations will be above those experienced during peak population years.

- The Department will aim for a target density of 18-24 deer per square mile (dpsm) of land area (pre-fawn) based on the 2014 model estimate of 11-18 dpsm<sup>8</sup>. In addition to trends indicated by the population model estimates, trends in harvest indices, WSI, and field observations will be used to assess population status.
- If milder winter conditions continue, conservative-to-moderate management strategies are anticipated for the next few years to move the population toward goal in this very productive area.
- Browse-related impacts on forest vegetation and wildlife habitat are anticipated with this significant population increase. Deer-related depredation on row crops, stored forage and specialty crops is also anticipated to increase.

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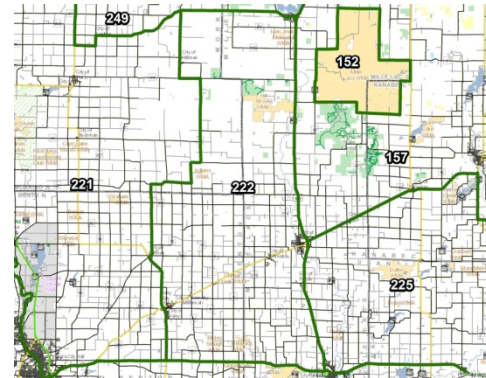
<sup>8</sup> Note that, similar to a weather forecast or budget forecast, model estimates may change over time as new information is incorporated into the model. For example, DNR deer population modeling occurs each spring prior to setting deer seasons. If the winter persists beyond the date when population estimates are developed, the estimate for that year may be different in the following year once the final data on winter severity can be included. In that case, DNR will assess the trend in the population based on the most up-to-date estimate of the 2014 population and best available data, along with other population indices.



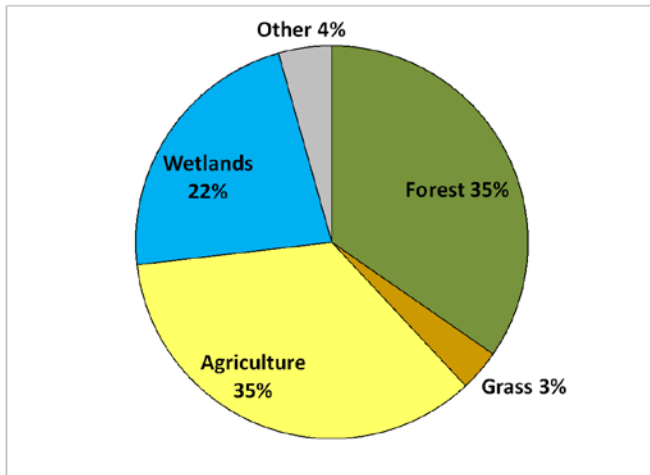
**Deer Permit Area:** 222  
**Size of Deer Permit Area:** 414 square miles total; 413 square miles of land.  
**2015 Population Goal:** Increase the population 50%, relative to 2014 population, over the next 3-5 years.

Year	Mgmt. Designation	No. Firearm Hunters	Firearm Success (%)	Reported Deer Harvest (All seasons)		
				Total	Bucks	Antlerless
2005	Intensive	4842	47%	2259	901	1358
2006	Intensive	4231	67%	2817	1091	1726
2007	Intensive	4471	66%	2968	997	1971
2008	Intensive	4589	48%	2195	839	1356
2009	Intensive	4464	54%	2405	989	1416
2010	Intensive	4525	57%	2601	953	1648
2011	Intensive	4683	50%	2351	990	1361
2012	Intensive	5103	51%	2608	960	1648
2013	Intensive	5132	48%	2458	937	1521
2014	Hunter's Choice	5121	32%	1618	796	822

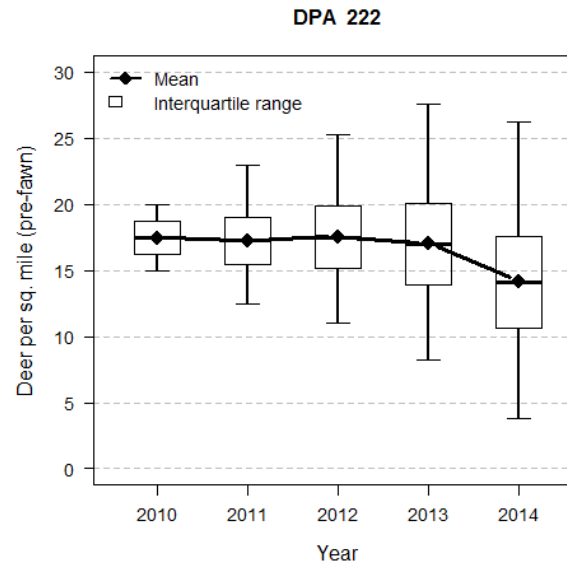
**Deer Permit Area:** 222  
**Size of Deer Permit Area:** 414 square miles total;  
 413 square miles of land



**Habitat Categories:**



**2014 Model Output:**



## Deer Permit Area 225

This permit area is a mixture of wetlands, woods and agricultural fields. The deer population has remained relatively stable despite attempts to manage this very productive herd with liberal harvest regulations over the past 10 years. In recent years, we have received a few complaints of deer damage to specialty crops.

### 2015 Deer Population Goal:

**Increase the population 25%, relative to 2014 population, over the next 3-5 years**

### Summary of decision

A majority (67%) of hunters surveyed in this permit area preferred a population increase, with the greatest number (32%) preferring an increase of 10%. Landowners surveyed in this permit area were divided between preferring no change and preferring a population increase, with the greatest number (46%) preferring no change. Public comment collected via online and written questionnaires in winter 2015 showed that a majority (74%) of questionnaire respondents preferred a population increase, with the greatest number (42%) preferring an increase of 50%. After reviewing biological and social data for this permit area, the deer advisory team recommended a population increase of 25%. Factors considered in the team's discussion included depredation complaints, ecosystem health, hunter success rates, harvest levels and more. Public comment collected in spring 2015 showed that approximately 73% of commenters supported or were ok with the team's recommendation. The Department decided to manage for an increased deer population in recognition of the advisory team recommendation, the range of stakeholder desires, and public support for team recommendations.

### Management implications

- This recommendation will result in management for population levels above those directed by previous goals.
- The Department will aim for a target density of 15-20 deer per square mile (dpsm) of land area (pre-fawn) based on the 2014 model estimate of 11-16 dpsm<sup>9</sup>. In addition to trends indicated by the population model estimates, trends in harvest indices, WSI, and field observations will be used to assess population status.
- If milder winter conditions continue, moderate-to-liberal management strategies are anticipated for the next few years to move the population toward goal in this very productive area.

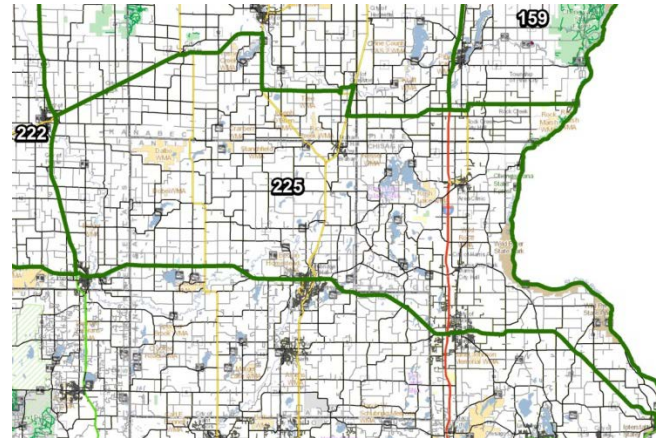
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<sup>9</sup> Note that, similar to a weather forecast or budget forecast, model estimates may change over time as new information is incorporated into the model. For example, DNR deer population modeling occurs each spring prior to setting deer seasons. If the winter persists beyond the date when population estimates are developed, the estimate for that year may be different in the following year once the final data on winter severity can be included. In that case, DNR will assess the trend in the population based on the most up-to-date estimate of the 2014 population and best available data, along with other population indices.

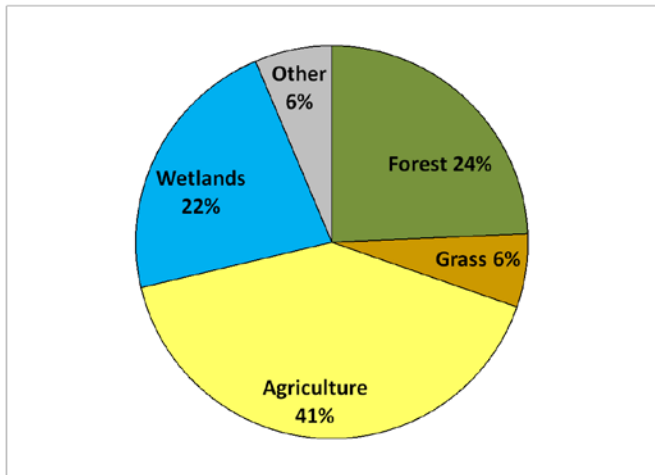
**Deer Permit Area:** 225  
**Size of Deer Permit Area:** 635 square miles total; 618 square miles of land.  
**2015 Population Goal:** Increase the population 25%, relative to 2014 population, over the next 3-5 years.

Year	Mgmt. Designation	No. Firearm Hunters	Firearm Success (%)	Reported Deer Harvest (All seasons)		
				Total	Bucks	Antlerless
2005	Intensive	7043	52%	3665	1425	2240
2006	Intensive	6367	69%	4406	1615	2791
2007	Intensive	6337	61%	3888	1502	2386
2008	Intensive	6667	50%	3348	1330	2018
2009	Intensive	6646	57%	3782	1479	2303
2010	Intensive	6570	62%	4097	1535	2562
2011	Intensive	6580	51%	3330	1382	1948
2012	Intensive	6806	47%	3218	1398	1820
2013	Intensive	7051	51%	3602	1451	2151
2014	Hunter's Choice	7252	34%	2665	1357	1308

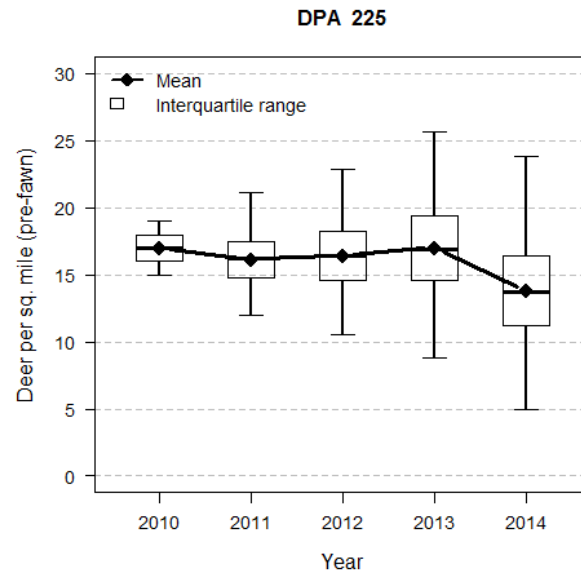
**Deer Permit Area:** 225  
**Size of Deer Permit Area:** 635 square miles total;  
 618 square miles of land



**Habitat Categories:**



**2014 Model Output:**



## Deer Permit Area 247

This permit area contains a mixture of private and public land. The area is primarily forested land interspersed with small lakes and wetlands. A majority of the private land is in small rural lots. Agriculture is not widespread in this area. Public land managers in this area have concerns with the impact of deer on pine regeneration.

### 2015 Deer Population Goal:

**Stabilize at 2014 population levels**

### Summary of decision

A majority (81%) of hunters surveyed in this permit area preferred a population increase, with the greatest number (42%) preferring an increase of 25%. Landowners surveyed in this permit area were divided between preferring a population decrease (29%), no change (35%), or a population increase (35%). Public comment collected via online and written questionnaires in winter 2015 showed that a majority (70%) of questionnaire respondents preferred a population increase, with the greatest number (40%) preferring an increase of 50%. After reviewing biological and social data for this permit area, the deer advisory team did not reach consensus on a recommendation for this permit area (over half of the members preferred an increase of 25%, while the majority of remaining members desired no change or a decrease in the population). Factors considered in the team's discussion included impacts to forests and native vegetation, timber productivity, deer "hot spots" (local pockets with high deer populations), permit area boundaries, hunter satisfaction rates, winter weather impacts and more. Public comment collected in spring 2015 showed that a majority preferred a population increase. The Department decided to manage for no change in the deer population in recognition of the range in advisory team recommendations and stakeholder desires as well as interest in maintaining harvest opportunity. Management for an increase would likely require unnecessarily conservative management strategies, bring deer densities to levels higher than previously experienced, and result in considerable browse impacts.

### Management implications

- This recommendation will result in management for population levels above those directed by previous goals.
- The Department will aim for a target density of 17-23 deer per square mile (dpsm) of land area (pre-fawn) based on the 2014 model estimate of 17-23 dpsm<sup>10</sup>. In addition to trends indicated by the population model estimates, trends in harvest indices, WSI, and field observations will be used to assess population status.

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<sup>10</sup> Note that, similar to a weather forecast or budget forecast, model estimates may change over time as new information is incorporated into the model. For example, DNR deer population modeling occurs each spring prior to setting deer seasons. If the winter persists beyond the date when population estimates are

- If milder winter conditions continue, conservative-to-moderate management strategies are anticipated for the next few years to move the population toward goal in this very productive area.

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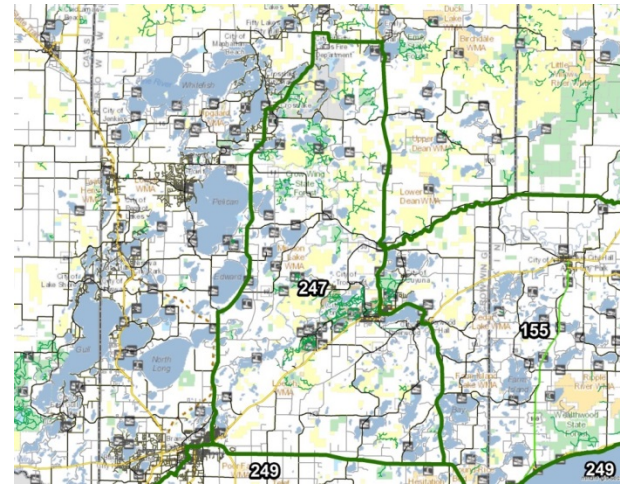
developed, the estimate for that year may be different in the following year once the final data on winter severity can be included. In that case, DNR will assess the trend in the population based on the most up-to-date estimate of the 2014 population and best available data, along with other population indices.

**Deer Permit Area:** 247  
**Size of Deer Permit Area:** 263 square miles total; 228 square miles of land.  
**2015 Population Goal:** Stabilize at 2014 population levels over the next 3-5 years.

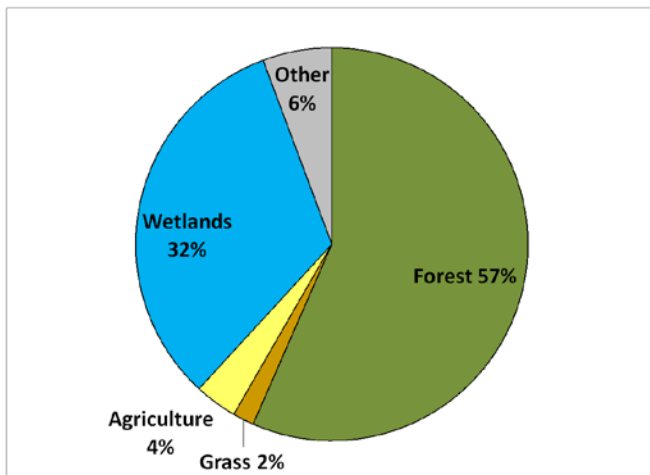
Year	Mgmt. Designation	No. Firearm Hunters	Firearm Success (%)	Reported Deer Harvest (All seasons)		
				Total	Bucks	Antlerless
2005	Managed	4002	53%	2116	862	1254
2006	Managed	3615	66%	2393	848	1545
2007	Managed	3413	60%	2064	802	1262
2008	Lottery (1500)	3541	35%	1247	657	590
2009	Lottery (1800)	3511	36%	1277	692	585
2010	Lottery (500)	3457	37%	1266	825	441
2011	Hunter's Choice	3549	46%	1634	779	855
2012	Hunter's Choice	3687	43%	1596	733	863
2013	Hunter's Choice	3695	39%	1440	638	802
2014	Lottery (300)	3574	26%	941	599	342



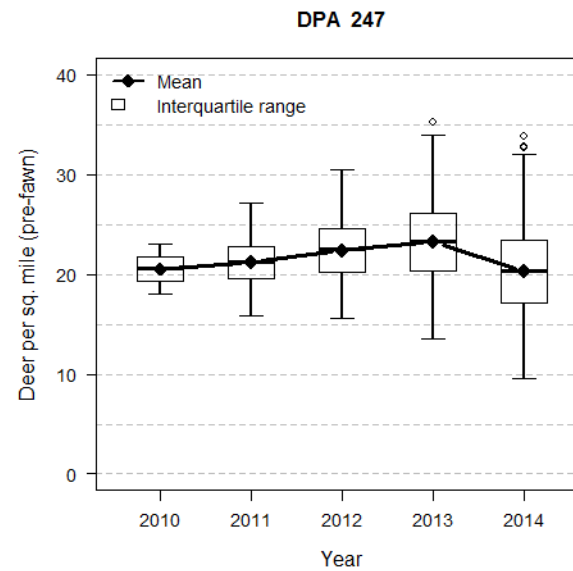
**Deer Permit Area:** 247  
**Size of Deer Permit Area:** 263 square miles total;  
 228 square miles of land



**Habitat Categories:**



**2014 Model Output:**



## Deer Permit Area 249

This permit area contains primarily private land with some scattered blocks under county and state ownership. Agriculture is important on the private land in this permit area. The primary cover types in this permit area include oak, aspen and mixed forest stands, various types of wetlands, and agriculture. Crow Wing State Park is within this permit area and holds an annual special deer hunt in the park to control deer populations within the park boundary.

### 2015 Deer Population Goal:

**Increase the population 50%, relative to 2014 population, over the next 3-5 years**

### Summary of decision

A majority (63%) of hunters surveyed in this permit area preferred a population increase, but approximately one third (35%) preferred no change in the population. Landowners surveyed in this permit area were divided between preferring no change (48%), and preferring a population increase (44%). Public comment collected via online and written questionnaires in winter 2015 showed that a majority (74%) of questionnaire respondents preferred a population increase, with the greatest number (40%) preferring an increase of 50%. After reviewing biological and social data for this permit area, the deer advisory team recommended a population increase of 50%. Factors considered in the team's discussion included hunting recruitment, subsistence harvest, permit area boundaries, hunter success rates, harvest levels, predator populations, impacts to forests and more. Public comment collected in spring 2015 showed that approximately 82% of commenters supported or were ok with the team's recommendation. The Department decided to manage for an increased deer population in recognition of the advisory team recommendation, the range of stakeholder desires, and public support for team recommendations. The need for additional monitoring of social conflicts is anticipated with this goal.

### Management implications

- This recommendation will result in management for population levels above those directed by previous goals. If the goal is met, populations will be similar or above those experienced during peak population years.
- The Department will aim for a target density of 20-25 deer per square mile (dpsm) of land area (pre-fawn) based on the 2014 model estimate of 12-18 dpsm<sup>11</sup>. In addition to trends indicated by the population model estimates, trends in harvest indices, WSI, and field observations will be used to assess population status.

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<sup>11</sup> Note that, similar to a weather forecast or budget forecast, model estimates may change over time as new information is incorporated into the model. For example, DNR deer population modeling occurs each spring prior to setting deer seasons. If the winter persists beyond the date when population estimates are

- If milder winter conditions continue, conservative management strategies are anticipated for the next few years to move the population toward goal in this very productive area.
- Browse-related impacts on forest vegetation and wildlife habitat are anticipated with this significant population increase. Deer-related depredation on row crops, stored forage and specialty crops is also anticipated to increase.

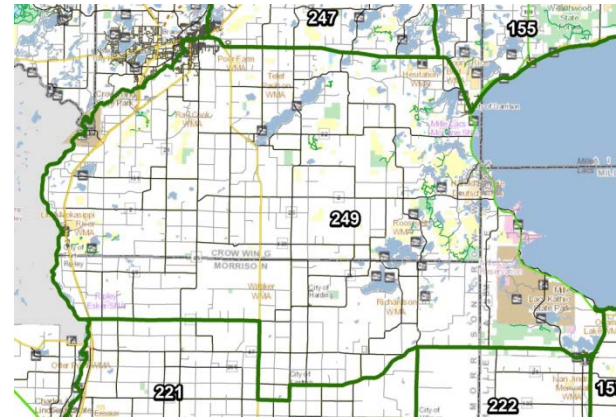
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developed, the estimate for that year may be different in the following year once the final data on winter severity can be included. In that case, DNR will assess the trend in the population based on the most up-to-date estimate of the 2014 population and best available data, along with other population indices.

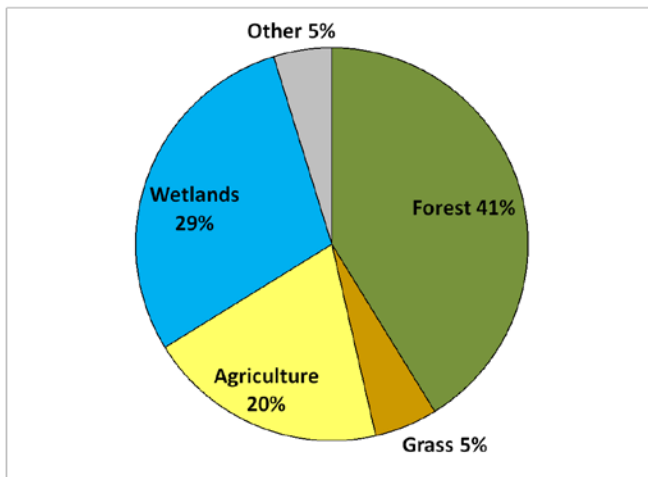
**Deer Permit Area:** 249  
**Size of Deer Permit Area:** 730 square miles total; 715 square miles of land.  
**2015 Population Goal:** Increase the population 50%, relative to 2014 population, over the next 3-5 years.

Year	Mgmt. Designation	No. Firearm Hunters	Firearm Success (%)	Reported Deer Harvest (All seasons)		
				Total	Bucks	Antlerless
2005	Managed	5941	54%	3211	1261	1950
2006	Managed	5332	68%	3643	1281	2362
2007	Managed	5408	61%	3305	1246	2059
2008	Lottery (2500)	5413	38%	2072	1137	935
2009	Lottery (3500)	5740	38%	2193	1149	1044
2010	Managed	5585	64%	3592	1404	2188
2011	Managed	5759	51%	2912	1242	1670
2012	Hunter's Choice	5831	41%	2403	1200	1203
2013	Hunter's Choice	6190	39%	2400	1117	1283
2014	Hunter's Choice	6451	39%	2532	1052	1480

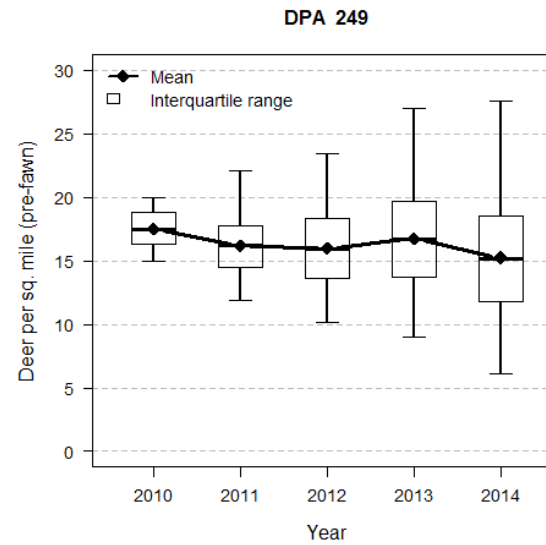
**Deer Permit Area:** 249  
**Size of Deer Permit Area:** 730 square miles total;  
 715 square miles of land



**Habitat Categories:**



**2014 Model Output:**



## References

MNDNR. 2014. *2014 Minnesota Deer Harvest Report*. St. Paul, Minnesota. 44pp.

MNDNR. 2015. *Minnesota Deer Population Goal Setting Packet: Superior Uplands Arrowhead Goal Block 2015*. St. Paul, Minnesota. 66pp.  
with addendum.

MNDNR. 2015. *Superior Uplands Arrowhead: Deer Goal Setting – Block 1 Landowner and Hunter Survey Results*. St. Paul, Minnesota. 32pp.