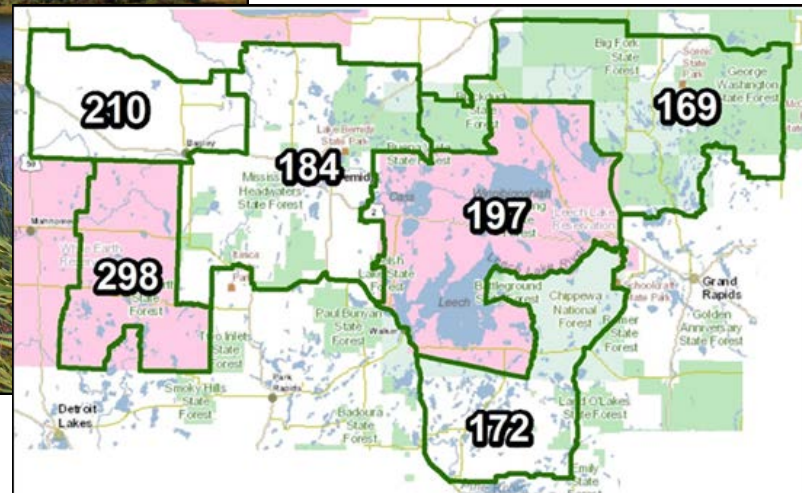




Minnesota Deer Population Goals

North Central Plains - Moraines Goal Block



Minnesota DNR – Section of Wildlife, 2015

Final Deer Population Goals – Block 2: North Central Plains Moraines

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 2: North Central Plains Moraines (deer permit areas 169, 172, 184, 197, 210 and 298).

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 includes¹:

- [Block 2 Hunter and Landowner Survey Reports](#)
- [Block 2 Team Information Packet](#) and Addendum
- [2014 Harvest Report](#)
- Public comment received during comment periods in winter and spring 2015
- [Block 2 Advisory Team Recommendations](#)
- Input from Area and Regional staff

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

Contents

Deer Permit Area 169	4
Deer Permit Area 172	8
Deer Permit Area 184	12
Deer Permit Area 197	16
Deer Permit Area 210	20
Deer Permit Area 298	24

Deer Permit Area 169

This permit area is primarily forested, with a large percentage of the land in public ownership. About two thirds of the permit area lies within the Chippewa National Forest. Private land holdings are primarily for recreation. The deer population has been decreasing since the mid-2000s. The severe winters of 2012-13 and 2013-14 significantly contributed to the population decline.

2015 Deer Population Goal:

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

Summary of decision

A majority (91%) of hunters surveyed in this permit area preferred a population increase, with the greatest number (40%) preferring an increase of 50%. A majority (75%) of landowners surveyed in this permit area preferred a population increase, with the greatest number (31%) preferring an increase of 50%. Public comment collected via online and written questionnaires in winter 2015 showed that a majority (91%) of questionnaire respondents preferred a population increase, with the greatest number (66%) 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, wolves, agricultural impacts, available habitat and more. Public comment collected in spring 2015 showed that approximately 80% 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 populations 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 7-13 dpsm². 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.

² 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.

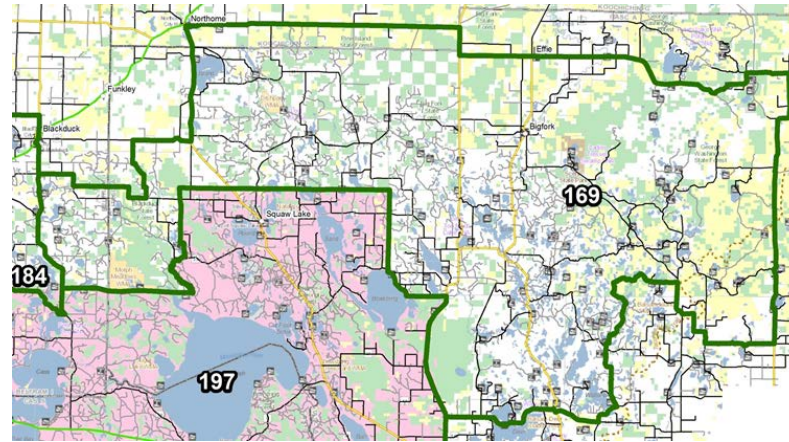
- Even if severe winter conditions do not occur, very conservative management strategies are anticipated for the next few years to move the population toward goal.

Deer Permit Area: 169
Size of Deer Permit Area: 1212 square miles total; 1124 square miles of land.
2015 Population Goal: Increase the population 50%, relative to 2014 population, over the next 3-5 years.
Comments: Deer Permit Area 169 was established in 2010.

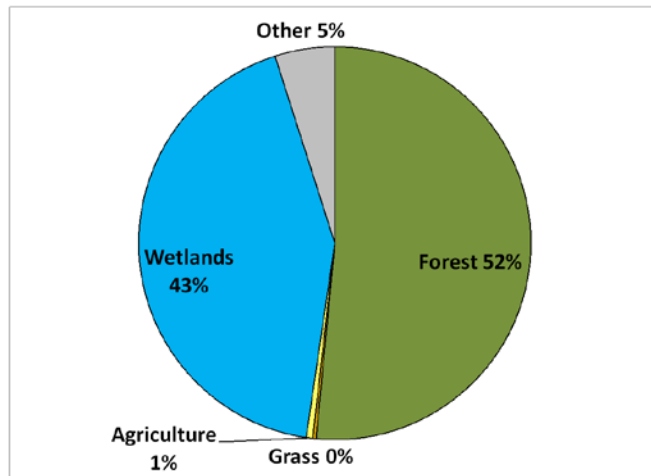
Year	Mgmt. Designation	No. Firearm Hunters	Firearm Success (%)	Reported Deer Harvest (All seasons)		
				Total	Bucks	Antlerless
2010	Lottery (4500)	9470	30%	2799	1612	1187
2011	Hunter's Choice	8980	30%	2659	1208	1451
2012	Lottery (3000)	9357	26%	2419	1500	919
2013	Lottery (3000)	9415	24%	2236	1345	891
2014	Bucks Only	6806	14%	967	962	5

Deer Permit Area: 169

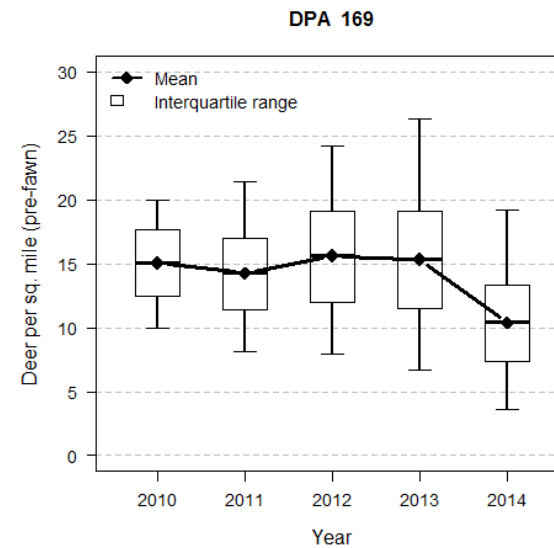
Size of Deer Permit Area: 1212 square miles total;
1124 square miles of land



Habitat Categories:



2014 Model Output



Deer Permit Area 172

This permit area consists of primarily forested public land, containing portions of the Chippewa National forest and various state and county administered lands. The majority of the private land in this permit area is found in the southwest corner. Forests in the area are interspersed with lakes and wetlands. Active timber management on the forest land can, and has, supported high deer densities. Deer are unevenly distributed across this permit area with lower densities in the northern portion of the DPA, likely a combination of differences in winter severity and habitat.

2015 Deer Population Goal:

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

Summary of decision

A majority (84%) of hunters surveyed in this permit area preferred a population increase, with the greatest number (32%) preferring an increase of 25%. A majority (63%) of landowners surveyed in this permit area preferred a population increase, with the greatest number (25%) preferring an increase of 10%. Public comment collected via online and written questionnaires in winter 2015 showed that a majority (88%) 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 increasing the population 50%; factors considered included hunter satisfaction and success rates, agricultural impacts, public health and safety (e.g., Lyme disease and deer-vehicle collisions), impacts to landscaping, and more. Public comment collected in spring 2015 showed that approximately 84% 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. A goal for a more moderate population 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 densities (> 20 deer per square mile) would result in lower harvest opportunity in the short- and long-term given the habitat mix and hunting pressure in this part of the state as well as concerns about anticipated browsing impacts.

Management implications

- This recommendation will result in management for populations 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 14-18 dpsm³. 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 fairly productive area.
- Browse-related impacts on forest vegetation and wildlife habitat are anticipated with this significant population increase.

³ 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: 172

Size of Deer Permit Area: 780 square miles total; 687 square miles of land.

2015 Population Goal: Increase the population 25%, relative to 2014 population, over the next 3-5 years.

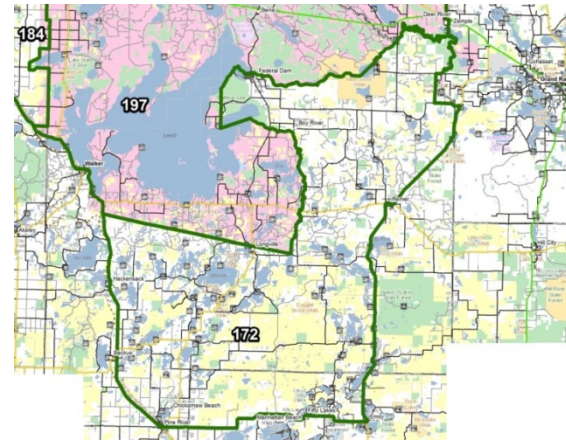
Comments: Deer Permit Area (DPA) 172 underwent a boundary change in 2010. Previously the eastern boundary followed State Hwy. 6 north to junction with State Hwy. 200, and then followed State Hwy. 200 west to the unchanged western boundary of the DPA along State Hwy. 371.

Year	Mgmt. Designation	No. Firearm Hunters	Firearm Success (%)	Reported Deer Harvest (All seasons)		
				Total	Bucks	Antlerless
2005	Managed	10536	50%	5227	1853	3374
2006	Managed	9357	57%	5359	1803	3556
2007	Managed	9177	53%	4877	1866	3011
2008	Managed	9092	44%	3973	1432	2541
2009	Managed	9072	38%	3459	1203	2256
2010*	Lottery (2000)	10444	25%	2640	1737	903
2011	Hunter's Choice	10318	36%	3725	1743	1982
2012	Lottery (2000)	10679	28%	3001	1976	1025
2013	Lottery (2000)	10732	23%	2515	1543	972
2014	Lottery (500)	10373	20%	2117	1499	618

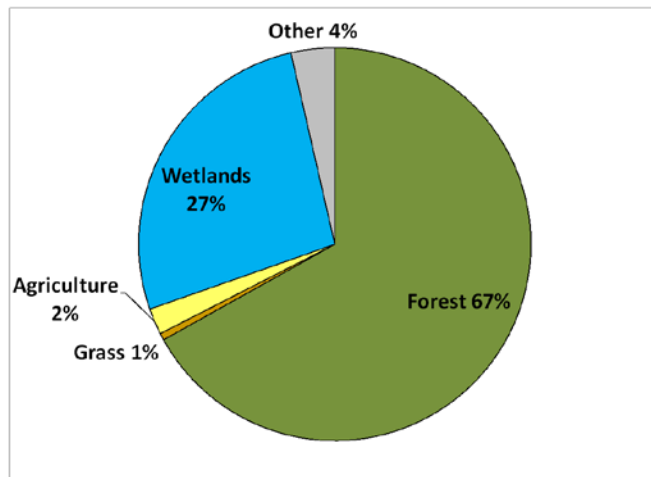
* Boundary change. Please see comments above.

Deer Permit Area: 172

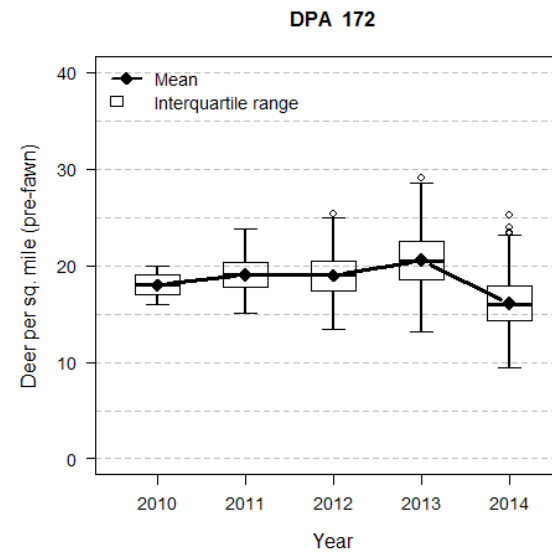
Size of Deer Permit Area: 780 square miles total;
687 square miles of land



Habitat Categories:



2014 Model Output:



Deer Permit Area 184

The permit area is primarily forested, with a mixture of hardwoods and pine. There are scattered parcels of agriculture throughout the permit area, with the most agriculture in the western portion. The city of Bemidji is within the permit area, as are the Schoolcraft and Bemidji Game Refuges, which provide primarily archers with trophy deer hunting opportunities. There is also an annual archery hunt within the Bemidji City limits.

2015 Deer Population Goal:

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

Summary of decision

A majority (80%) of hunters surveyed in this permit area preferred a population increase, with the greatest number (35%) preferring an increase of 25%. A majority (65%) of landowners surveyed in this permit area preferred a population increase, with the greatest number (31%) preferring an increase of 25%. Public comment collected via online and written questionnaires in winter 2015 showed a majority (87%) of questionnaire respondents preferred a population increase, with the greatest number (62%) 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, predation, public health (e.g., Lyme disease), public safety (i.e. deer vehicle collisions) and more. Public comment collected in spring 2015 showed that approximately 84% 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 populations above those directed by previous goals.
- 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 13-16 dpsm⁴. 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.

⁴ 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.

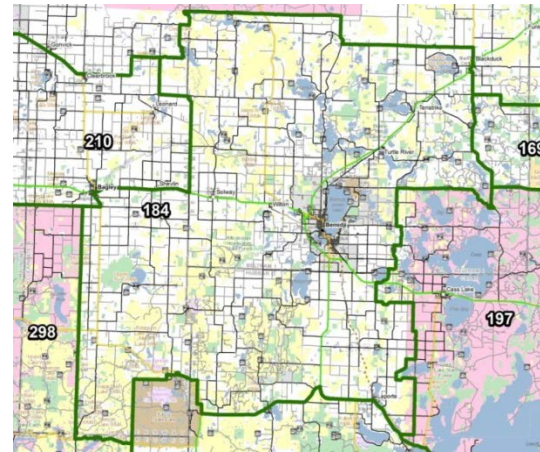
developed, the estimate for that year may be different in the following year once the final data on winter severity can be included. In that case, DNR will assess the trend in the population based on the most up-to-date estimate of the 2014 population and best available data, along with other population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

Deer Permit Area: 184
Size of Deer Permit Area: 1318 square miles total; 1229 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	15724	71%	11228	4097	7131
2006	Intensive	13738	75%	10260	3554	6706
2007	Intensive	13895	79%	10999	3553	7446
2008	Intensive	13742	68%	9311	3416	5895
2009	Managed	13449	49%	6651	2853	3798
2010	Lottery (3750)	13087	33%	4325	3012	1313
2011	Hunter's Choice	13776	37%	5061	2553	2508
2012	Lottery (5500)	14244	34%	4798	3018	1780
2013	Lottery (5500)	14312	29%	4210	2707	1503
2014	Lottery (3000)	14087	26%	3692	2376	1316

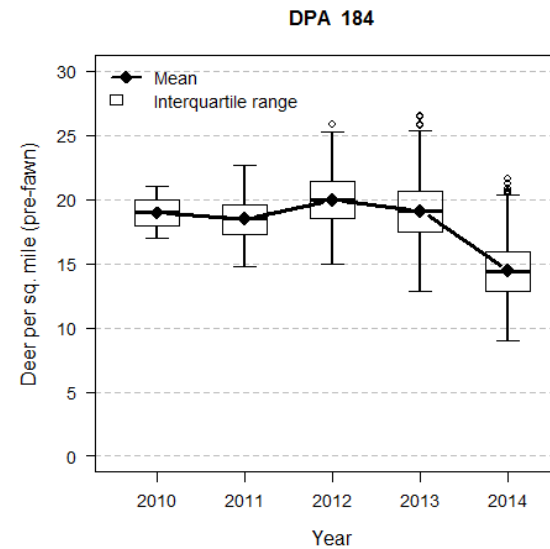
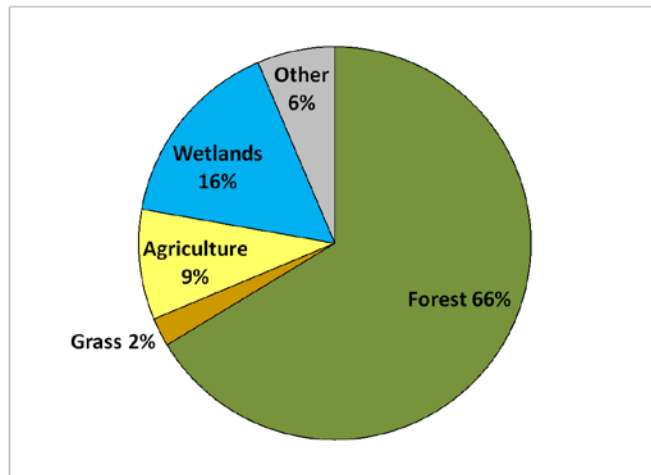
Deer Permit Area: 184

Size of Deer Permit Area: 1318 square miles total;
1229 square miles of land



Habitat Categories:

2014 Model Output:



Deer Permit Area 197

This permit area aligns with the boundary of the Leech Lake Reservation. The Leech Lake Band of Ojibwe administers its own deer hunt. The land is primarily forested, with a large percentage in public ownership, and lies almost entirely within the Chippewa National Forest. The deer population has been decreasing since the mid-2000s. Recent severe winters have had a varied effect on deer survival, with winter having the greatest impact in the northeastern portion of the DPA and the least in the Southwestern portion of the area.

2015 Deer Population Goal:

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

Summary of decision

A majority (83%) of hunters surveyed in this permit area preferred a population increase, with the greatest number (33%) preferring an increase of 25%. A majority (73%) of landowners surveyed in this permit area preferred a population increase, with the greatest number (29%) preferring an increase of 25%. Public comment collected via online and written questionnaires in winter 2015 showed a majority (87%) of questionnaire respondents preferred a population increase, with the greatest number (62%) 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 hunter success rates, harvest levels, agricultural impacts, over-browsing, public health (e.g., Lyme disease), public safety (i.e. deer vehicle collisions) and more. Public comment collected in spring 2015 showed that approximately 83% 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 populations above those directed by previous goals.
- The Department will aim for a target density of 9-12⁵ deer per square mile (dpsm) of land area (pre-fawn) based on the 2014 model estimate of 6-9 dpsm⁶. 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.

⁵ Harvest numbers are only available for state hunter harvest and do not include tribal harvest. As a result any population estimates are minimum estimates as are the associated target densities.

- 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.

⁶ 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: 197

Size of Deer Permit Area: 1340 square miles total; 955 square miles of land.

2015 Population Goal: Increase the population 50%, relative to 2014 population, over the next 3-5 years.

Comments: Deer Permit Area (DPA) 197 underwent a boundary change in 2010. Previously, the boundary followed the north shore of Leech Lake west, to the most northern point of Leech Lake, then ran due south, along the Battleground State Forest boundary line.

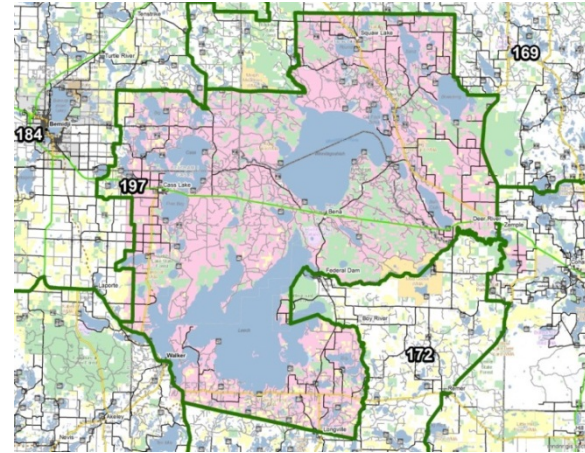
Note that harvest numbers only reflect state hunter harvest and do not include tribal harvest. As a result any population estimates are minimum estimates.

Year	Mgmt. Designation	No. Firearm Hunters	Firearm Success (%)	Reported Deer Harvest (All seasons)		
				Total	Bucks	Antlerless
2005	Lottery (1800)	4648	34%	1594	999	595
2006	Managed	4663	53%	2471	1090	1381
2007	Managed	4630	49%	2248	1108	1140
2008	Managed	4796	43%	2055	1002	1053
2009	Managed	5097	36%	1859	883	976
2010*	Lottery (2500)	5388	32%	1700	1056	644
2011	Hunter's Choice	5750	32%	1831	994	837
2012	Lottery (1500)	5824	26%	1543	1029	514
2013	Lottery (1500)	5717	24%	1373	934	439
2014	Lottery (200)	5595	17%	943	758	185

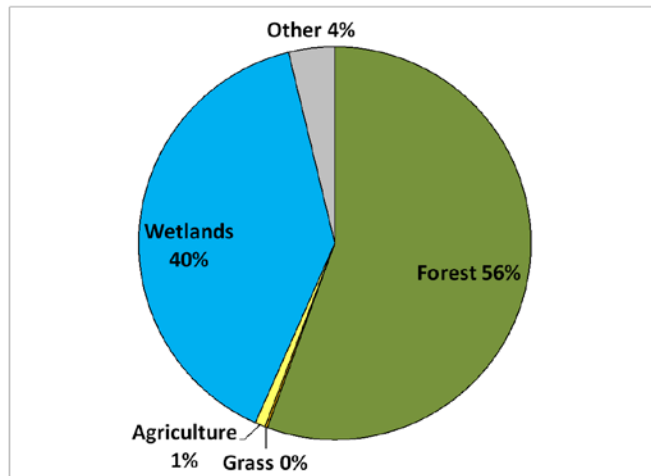
* Boundary change. Please see comments above.

Deer Permit Area: 197

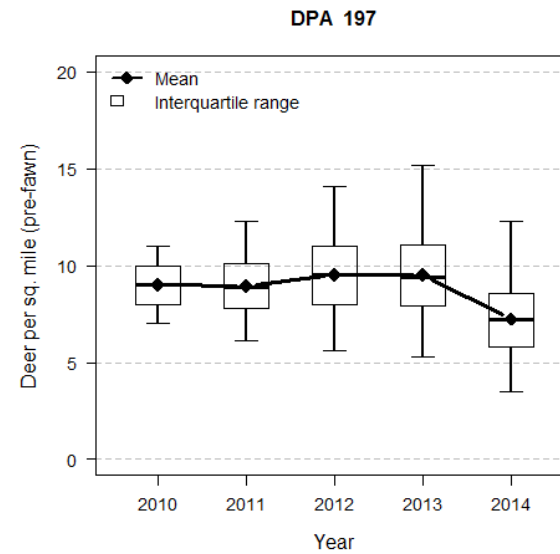
Size of Deer Permit Area: 1340 square miles total;
955 square miles of land



Habitat Categories:



2014 Model Output:



Deer Permit Area 210

Much of the western portion of DPA 210 is composed of habitats indicative of the Transition Zone (prairie/agriculture) which grades into deciduous (primarily quaking aspen) woodlands and then into a mosaic of hardwoods, evergreens and lowland brush as one moves to the east end of the permit area. The tremendous diversity of upland habitats makes 210 a permit area in which deer reproduction is capable of gaining strong numbers over a few years in response to such influences as difficult winter weather or high hunter success. There are many tracts of land in 210 that are owned by those who enjoy the natural aspects of their land for wildlife viewing and deer hunting. Often, these private tracts are managed to improve habitat to favor robust deer populations. This permit area also sees substantial commercial aspen cutting and subsequent regeneration; almost always a positive for early successional species like white-tailed deer. In the Crookston work area, DPA 210 is the most difficult unit to aerially survey for deer due to the dense canopy in parts of the permit area.

2015 Deer Population Goal:

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

Summary of decision

A majority (80%) of hunters surveyed in this permit area preferred a population increase, with the greatest number (42%) preferring an increase of 25%. A majority (65%) of landowners surveyed in this permit area preferred a population increase, with the greatest number (28%) preferring an increase of 10%. Public comment collected via online and written questionnaires in winter 2015 showed that a majority (87%) of questionnaire respondents preferred a population increase, with the greatest number (57%) 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 harvest levels, agricultural impacts, winter weather, public safety (i.e. deer vehicle collisions) and more. Public comment collected in spring 2015 showed that approximately 87% 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 populations similar to those directed by previous goals.

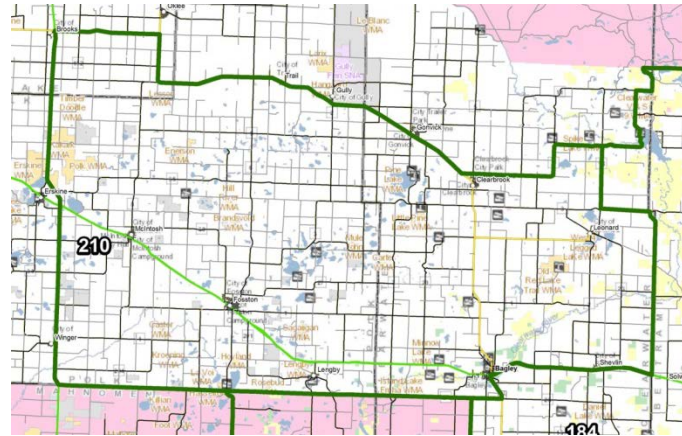
- The Department will aim for a target density of 8-10 deer per square mile (dpsm) of land area (pre-fawn) based on the 2014 model estimate of 5-7 dpsm⁷. In addition to trends indicated by the population model estimates, trends in harvest indices, WSI, and field observations will be used to assess population 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 fairly productive area.

⁷ 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.

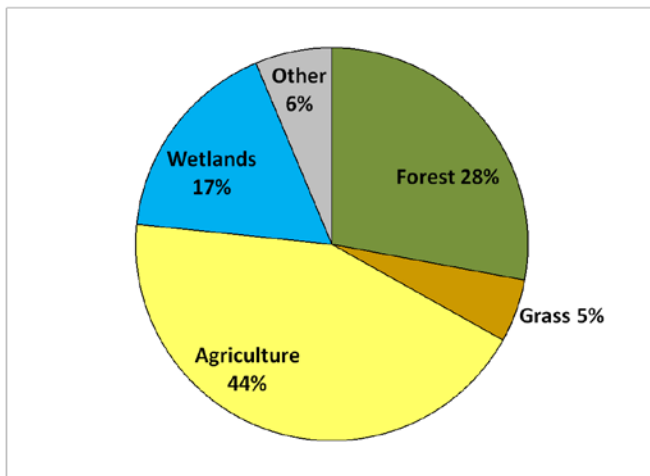
Deer Permit Area: 210
Size of Deer Permit Area: 636 square miles total; 615 square miles of land.
2015 Population Goal: Increase the population 50%, relative to 2014 population, over the next 3-5 years.

Year	Mgmt. Designation	No. Firearm Hunters	Firearm Success (%)	Reported Deer Harvest (All seasons)		
				Total	Bucks	Antlerless
2005	Intensive	4450	67%	2968	1176	1792
2006	Intensive	4041	77%	3122	1140	1982
2007	Intensive	4125	74%	3041	1084	1957
2008	Intensive	4340	67%	2910	1132	1778
2009	Intensive	4321	65%	2798	1105	1693
2010	Intensive	4265	61%	2604	1077	1527
2011	Intensive	4592	50%	2274	770	1504
2012	Managed	4578	50%	2307	996	1311
2013	Managed	4558	36%	1619	773	846
2014	Hunter's Choice	4486	29%	1290	712	578

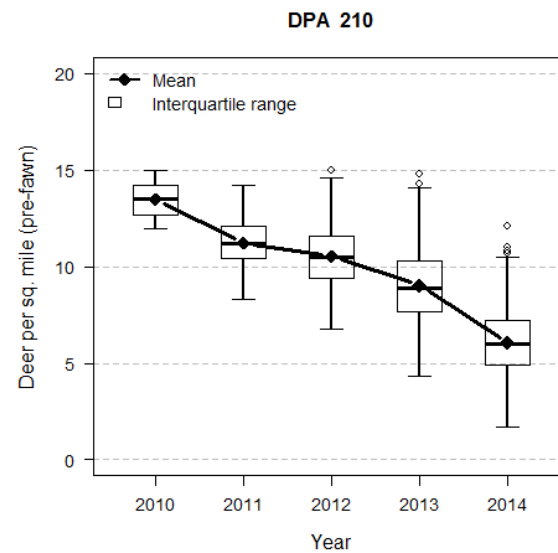
Deer Permit Area: 210
Size of Deer Permit Area: 636 square miles total;
 615 square miles of land



Habitat Categories:



2014 Model Output:



Deer Permit Area 298

This permit area is entirely within the White Earth Reservation and contains a significant amount of county, state, and tribal land. The area contains good deer habitat comprised of primarily forest with some agricultural areas interspersed with numerous lakes and wetlands. The deer population has trended downward to a stable level over the past decade, likely due to deer harvest levels and more severe winter weather. A few concerns about deer browsing tree seedlings have been noted over the 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 (38%) preferring an increase of 50%. A majority (76%) of landowners surveyed in this permit area preferred a population increase, with the greatest number (40%) preferring an increase of 25%. Public comment collected via online and written questionnaires in winter 2015 showed that a majority (85%) of questionnaire respondents preferred a population increase, with the greatest number (54%) 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 hunter success rates, harvest levels, impact to population centers 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 populations similar to those directed by previous goals.
- The Department will aim for a target density of 13-17⁸ deer per square mile (dpsm) of land area (pre-fawn) based on the 2014 model estimate of 8-11 dpsm⁹. 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.

⁸ Note that harvest numbers are only available for state hunter harvest and do not include tribal harvest. As a result any population estimates are minimum estimates, as are the associated target densities.

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

⁹ 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: 298

Size of Deer Permit Area: 677 square miles total; 618 square miles of land.

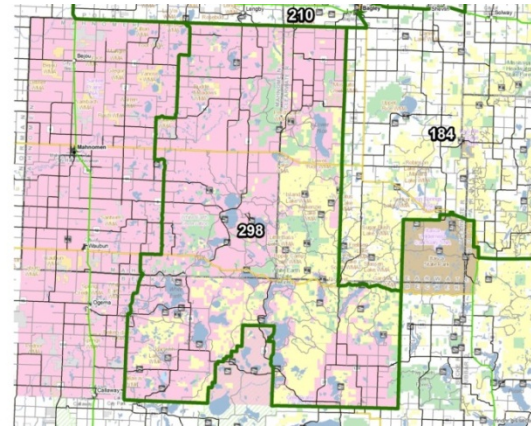
2015 Population Goal: Increase the population 50%, relative to 2014 population, over the next 3-5 years.

Comments: Note that harvest numbers only reflect state hunter harvest and do not include tribal harvest. As a result any population estimates are minimum estimates.

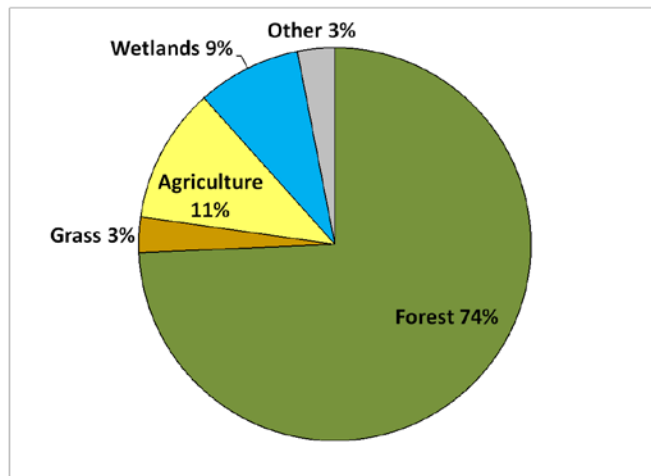
Year	Mgmt. Designation	No. Firearm Hunters	Firearm Success (%)	Reported Deer Harvest (All seasons)		
				Total	Bucks	Antlerless
2005	Managed	3621	46%	1664	810	854
2006	Managed	3201	54%	1727	799	928
2007	Managed	3236	50%	1610	753	857
2008	Managed	3143	45%	1420	712	708
2009	Managed	3794	42%	1585	699	886
2010	Managed	3768	43%	1612	722	890
2011	Hunter's Choice	3776	27%	1022	529	493
2012	Lottery (600)	3769	26%	962	734	228
2013	Lottery (600)	3618	21%	749	578	171
2014	Lottery (100)	3351	18%	598	484	114

Deer Permit Area: 298

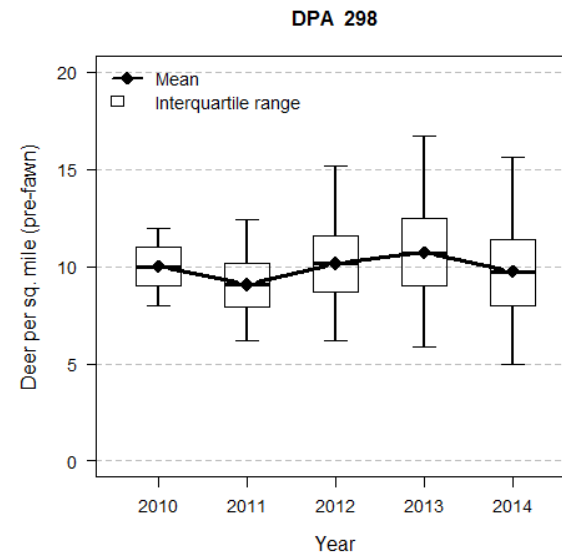
Size of Deer Permit Area: 677 square miles total;
618 square miles of land



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.