Appendix A:
Summary of 2012-2013 Mule Deer and White-tailed Deer Harvest, Census, and Demographic Data

Total deer harvest is the sum of table 2a [whitetail and mule] and table 2b [whitetail and mule]

Total Harvest = 44,007 = [32,499 + 2056] + [8,937 + 515]

1. A total of 61,973 licenses were issued of the 65,150 licenses made available for the regular deer-gun season (Table 1a).

2. The overall hunter success for the 2012 regular gun season was 67.2 percent.

3. Deer-gun hunters harvested an estimated 32,499 white-tailed deer and 2,056 mule deer during the 2012 season (Table 2a).

4. Youth deer hunters in 2012 had a success rate of 56.5 percent during the youth season, and harvested 1701 white-tailed deer and 99 mule deer during the youth deer season (Table 3a). During the regular deer-gun season an additional 116 white-tailed deer, and 30 mule deer harvested by youth hunters.

5. Muzzleloader hunters in 2012 had a success rate of 34.5 percent, and harvested 397 white-tailed deer (Table 3a).

6. Archery hunters in 2010 had a success rate of 35.5 percent, and harvested 6,440 white-tailed deer and 416 mule deer (Table 3a).

7. Population indices for white-tailed deer suggest a stable to decreasing numbers in a most of the state (Table 4a) (See Figures 1 and 2).

8. Population indices for mule deer suggest a stable to decreasing numbers in the badlands and stable to increasing numbers in portions of the Slope and Missouri River Major Management areas (Table 5a) (Figure 3).

9. Based on 1064 useable questionnaires from the 2012 Hunter Observation Survey (n=32,233 white-tailed deer and 2,499 mule deer classified), overall population demographics suggest that about 20 percent of the white-tailed deer and 18 percent of the mule population were antlered deer prior to, or on the opening weekend of the deer-gun season (Table 6a).

10. Based on fall aerial surveys (n=1,224 mule deer classified) results for the Badlands Major management Units, overall mule deer population demographics suggest that 19

percent of the population were antlered deer prior to the opening weekend of the deer-gun season (Table 7a).

11. In 2008 information on the number of elk and moose observed during the opening weekend of the deer was added to the hunter observation questionnaire. Maps summarizing the results of the 2012 data set for elk and moose observations are given in Figures 4 and 5. Trend data provide by this survey will also be evaluated in the elk and moose PR Reports.

Table 1a. Summary of license numbers available for hunting units by license type for the 2012 regular deer gun season.

MGMT UNIT	HUNTING UNIT	DEER TYPE A	DEER TYPE B	DEER TYPE C	DEER TYPE D	DEER TYPE E	DEER TYPE F
		Any ♂	Any ♀	WTD♂	WTD ♀	♂ MD	MD ♀
TURTLE MTS	I	600	600				
RED RIVER	2A	400	200				
	2B	2,000	2,000				
	2C	1,500	2,000				
PEMBINA HILLS	2D	1,000	1,000				
SHEYENNE	2F1	1,300	1,300				
	2F2	1,300	1,300				
	2G	400	400				
	2G1	1,000	1,000				
	2G2	900	900				
COTEAU	2E	1,000	1,000				
	2H	900	900				
	2I	1,200	1,200				
	2J1	500	500				
	2J2	1,200	1,200				
	2K1	800	1,100				
	2K2	2,000	3,500				
	3A1	600	50				
	3A3	600	600				
DEVILS LAKE	2L	600	800				
SOURIS	3A2	1,200	1,700				
	3A4	1,500	1,500				
MISSOURI	3B1			150	100	250	0
	3B2			250	250	100	0
	3B3	100	100	900	900		
	3C	100	100	1,100	1,100		
SLOPE	3D1	200	200	100	100		
	3D2	200	200	200	200		
	3E1	300	300	500	500		
	3E2	600	600	450	450		
	3F1	350	500	600	600		
	3F2	450	800	800	800		
BADLANDS	4A			100	100	150	0
	4B			100	100	200	0
	4C			100	100	200	0
	4D			150	150	150	0
	4E			100	100	100	0
	4F			200	400	50	0
	TOTALS	24,800	27,550	5,800	5,950	1,200	0

TOTAL LICENSES = 65,300

Table 2a. Summary of 2012 white-tailed deer and mule deer harvest data and buck:doe:fawn ratios, by hunting unit, for all regular deer-gun license holders.

Hunting Unit	White-tailed Deer				Mule Deer			
	Antlered	Antlerless	Total	Ratios (B/D/F)	Antlered	Antlerless	Total	Ratios (B/D/F)
1	285	258	543	1.43/1/0.29				
2A	209	83	292	4.10/1/0.63				
2B	1095	1088	2183	1.41/1/0.40				
2C	732	813	1545	1.10/1/0.22				
2D	429	441	870	1.58/1/0.63				
2F1	793	743	1536	1.44/1/0.34				
2F2	568	660	1228	1.18/1/0.37				
2G	236	166	402	2.15/1/0.51				
2G1	643	545	1188	1.94/1/0.65				
2G2	558	491	1049	1.46/1/0.29				
2E	526	338	864	2.21/1/0.42				
2H	616	481	1097	1.97/1/0.54				
2I	807	663	1470	1.93/1/0.58				
2J1	347	234	581	2.13/1/0.44				
2J2	745	638	1383	1.77/1/0.52				
2K1	517	571	1088	1.26/1/0.39				
2K2	1018	1819	2837	0.87/1/0.55				
3A1	213	6	219	35.50/1/0.0				
3A3	390	298	688	1.94/1/0.48				
2L	290	310	600	1.12/1/0.20				
3A2	692	729	1421	1.24/1/0.31				
3A4	965	863	1828	1.66/1/0.48				
3B1	110	4	114	27.50/1/0.0	88	0	88	88.00/1/0.00
3B2	155	96	251	2.07/1/0.28	79	3	82	79.00/1/3.00
3B3	580	519	1099	1.39/1/0.25	47	22	69	2.94/1/0.38
3C	800	530	1330	2.04/1/0.35	47	15	62	3.62/1/0.15
3D1	93	87	180	1.43/1/0.34	86	48	134	2.61/1/0.45
3D2	202	158	360	1.82/1/0.42	69	61	130	1.47/1/0.30
3E1	430	310	740	1.74/1/0.26	121	64	185	2.81/1/0.49
3E2	584	298	882	2.70/1/0.38	139	135	274	1.72/1/0.67
3F1	672	162	834	5.55/1/0.34	64	72	136	1.21/1/0.36
3F2	789	250	1039	4.75/1/0.51	136	117	253	1.35/1/0.16
4A	54	23	77	3.18/1/0.35	94	0	94	94.0/1/0.00
4B	54	26	80	3.60/1/0.73	145	0	145	145.0/1/0.00
4C	54	25	79	3.00/1/0.39	144	0	144	144.0/1/0.00
4D	104	64	168	2.36/1/0.45	137	0	137	137.0/1/0.00
4E	67	41	108	1.86/1/0.14	81	0	81	81.0/1/0.00
4F	154	92	246	2.52/1/0.51	42	0	42	42.0/1/0.00
Total	**17576**	**14923**	**32499**	**1.66/1/0.41**	**1519**	**537**	**2056**	**3.93/1/0.39**

Table 3a. Summary of 2012 September Youth Deer Seasons (N=3,683 licenses issued; including new 12-year-old antlerless white-tailed deer only season), muzzleloader (N=1,282 licenses issued), and archery season (N=22,276 licenses issued) harvest data and buck:doe:fawn ratios, by license type for those license holders that hunted.

License Type	White-tailed Deer				Mule Deer			
	Antlered	Antlerless	Total	Ratios (B/D/F)	Antlered	Antlerless	Total	Ratios (B/D/F)
Youth Season	353	1,348	1,701	0.41/1/0.54 (353/871/477)	88	11	99	8.00/1/4.50 (88/2/9)
Muzzle-Loader	212	185	397	1.78/1/0.55 (212/119/66)				
Archery	4,581	1,859	6,440	3.30/1/0.34 (4581/1385/474)	398	18	416	36.18/1/0.64 (398/11/7)
Total	**5,146**	**3,392**	**8,937**	**2.17/1/0.43 (5,146/2,375/1,017)**	**486**	**29**	**515**	**37.38/1/1.23 (486/13/16)**

Table 4a. Summary of white-tailed deer population indices for2012-2013 (i.e., 2013 winter aerial survey(Deer/ Sq. Mi.), 2012 deer-vehicle collisions, and 2012 white-tailed deer observed by hunters per hour of effort during the first Saturday and Sunday of the 2012 regular deer season (number of useable surveys).

Hunting Unit	2013 Winter Aerial Survey (Sample Size)	2012 Deer-Vehicle Collisions (MD & WTD)	2012 Hunter Obs. WTD/Hr. ± s.d. (Sample Size)
Turtle Mountains 1	4.3 (397/93.0) Decrease	Stable	1.45 ± 1.44 (28) Increasing
Red River All Units	5.6 (5344/947.8) Decrease	Stable	Stable to Increasing
2A	2.1 (889/433.5) Increase	Stable	2.09 ± 3.16 (10) Stable to Increase
2B	10.0 (1898/180) Decrease	Stable	1.40± 1.17 (62) Stable to Increase
2C	7.6 (2557/334.3) Decrease	Stable	2.08 ± 1.87 (50) Stable to Increase
Pembina Hills 2D	7.7 (2230/289) Decrease	Stable	1.33 ± 1.23 (43) Stable to Increase
Sheyenne-James River All Units	5.9 (7987/886.1)	Stable to Decreasing	NA
2F1	13.5 (2443/181) Increase	Decreasing	2.58 ± 1.95 (46) Stable
2F2	19.8 (1227/62) Increase	Stable	2.06 ± 1.64 (50) Stable to Increase
2G	7.0 (707/100.5) Decrease	Stable	1.42 ± 1.06 (45) Stable
2G1	2.6 (1425/544)	Stable	1.74 ± 2.08 (63) Stable to Increase
2G2	4.6 (2022/441)	Stable to Decreasing	1.64 ± 1.29 (53) Stable to Increase
Devils Lake 2L	4.4 (1645/375.1)	NA	3.62 ± 3.55 (41) Stable to Increase
Coteau Hills All Units	2.1 (8516/4055) Decrease	Stable to Decreasing	NA
2E	1.3 (1601/1200) Decrease	Stable	1.98 ± 1.69 (30) Stable Increase
2H	0.0 (0/432)	Stable	2.58 ± 2.06 (40) Stable to Increase
2I	0.0 (0/1480)	Stable	2.57 ± 2.84 (53) Stable to Increase
2J1	0.0 (0/588)	Stable	1.97 ± 2.51 (2)** Stable to Increase
2J2	0.0 (0/612)	Stable to Decreasing	2.46 ± 1.91 (48) Stable to Increase

Table 4a. (Continued)

Hunting Unit	2013 Winter Aerial Survey (Sample Size)	2012 Deer-Vehicle Collisions (MD & WTD)	2012 Hunter Obs. WTD/Hr. ± s.d. (Sample Size)
Coteau Hills 2K1	5.5 (2926/532)	Stable	1.91 ± 1.22 (33) Stable to Increase
2K2	2.9 (1876/636)	Stable to Decreasing	2.72 ± 3.23 (46) Stable to Increase
3A1	1.1 (1392/1260) Decrease	Stable	0.00 ± 0.00 (0)
3A3	1.7 (721/427)	Stable	3.40 ± 4.76 (10) Increase
Souris Des Lacs All Units	5.5 (4078/744)	Stable	NA
3A2	18.7 (1143/61)	Stable	2.73 ± 3.19 (34) Stable
3A4	4.3 (2935/683)	Stable	2.19 ± 3.11 (32) Stable
Missouri River All Units	NA	Stable to Decreasing	NA
3B1	0.0 (0/471)	NA	0.00 ± 0.00 (0)
3B2	0.0 (0/267)	Stable to Increasing	0.00 ± 0.00 (0)
3B3	0.0 (162)	Stable	2.39 ± 2.14 (46) Stable to Increase
3C	7.1 (689/97)	Stable to Decreasing	3.14 ± 2.87 (41) Stable to Decrease
Slope All Units	0.0 (00)	Stable to Increasing	NA
3D1	0.0 (0/574)	Stable to Increasing	0.00 ±0.00 (0)
3D2	0.0 (0/577)	Increasing	1.91 ±0.00 (1)**
3E1	0.0 (0/586)	Stable to Decreasing	3.98 ± 4.62 (43) Stable to Increase
3E2	0.0 (0/570)	Stable to Increasing	3.53 ± 4.26 (41) Stable to Decrease
3F1	0.0 (0/560)	Stable to Increasing	7.55±4.99 (40) Increasing
3F2	0.0 (0/656)	Stable to Decreasing	8.65±9.66 (29) Increasing

Table 4a. (Continued)

Hunting Unit	2013 Winter Aerial Survey (Sample Size)	2012 Deer-Vehicle Collisions (MD & WTD)	2012 Hunter Obs. Deer/Hr. ± s.d. (Sample Size)
Badlands All Units	NA	Stable to Decreasing	NA
4A	0.0 WT & 0.0 MD (0 WT & 0 MD/92.1)	NA	0.00 ± 0.00 (0)*** (All Deer Hunter Observations)
4B	NA	Decreasing	0.00 ± 0.00 (0)*** (All Deer Hunter Observations)
4C	NA	Decreasing	0.00 ± 0.00 (0)*** (All Deer Hunter Observations)
4D	NA	Decreasing	0.00 ± 0.00 (0)*** (All Deer Hunter Observations)
4E	NA	Decreasing	0.00 ± 0.00 (0)*** (All Deer Hunter Observations)
4F	NA	Stable to Increasing	21.55 ± 8.86 (4)*** Increasing (ALL Deer Hunter Observations)

***** Small Sample**

Table 5a. Summary of mule deer population indices for 2012-2013 (i.e., 2013 winter/spring aerial survey, 2012 Deer-vehicle collisions, and 2012 mule deer observed by hunters per hour of effort during the first Saturday and Sunday of the 2008 regular deer season(number of useable surveys).

Hunting Unit	2013 Winter(*) or Spring Aerial Survey (Sample Size)	2012 Deer-Vehicle Collisions (MD & WTD)	2012 Hunter Obs. MD/Hr. ± s.d. (Sample Size)
Missouri River All Units	NA	Stable to Decreasing	NA
3B1	NA	NA	0.00 ± 0.00 (0) All Hunters
3B2	NA	Stable to Increasing	0.00 ± 0.00 (0) All Hunters
3B3	NA	Stable	0.18 ± 0.50 (46) Stable to Increase All Hunters
3C	NA	Stable to Decreasing	0.37 ± 0.75 (41) Stable to Decrease All Hunters
Slope All Units	0.9 (0/3532)	Stable to Increasing	NA
3D1	0.0 (0/574)	Stable to Increasing	0.00 ± 0.00 (0) All Hunters
3D2	0.0 (0/577)	Increasing	1.27±0.00 (1)* All Hunters
3E1	0.0 (0/586)	Stable to Decreasing	0.81 ± 0.1.31 (43) Stable to Increase All Hunters
3E2	0.0 (0/570)	Stable to Increasing	0.58 ± 0.84 (41) Stable All Hunters
3F1	0.0 (/560)	Stable to Increasing	1.41±1.41 (40) Stable to Increase All Hunters
3F2	0.0 (/683)	Stable to Decreasing	1.98 ± 2.46 (27) Increasing All Hunters

Table 5a. (Continued)

Hunting Unit	2013 Spring Aerial Survey (Sample Size)	2012 Deer-Vehicle Collisions (MD & WTD)	2012 Hunter Obs. MD/Hr. ± s.d. (Sample Size)
Badlands All Units	6.0 (1756) Decreasing	Stable to Decreasing	NA
4A	8.7 (239) Decreasing	NA	0.00 ± 0.00 (0) All Hunters
4B	4.7 (336) Decreasing	Decreasing	2.25 ± 0.00 (0) All Hunters
4C	5.1 (316) Decreasing	Decreasing	2.89 ± 0.00 (0) All Hunters
4D	8.8 (613) Decreasing to Stable	Decreasing	3.04 ± 0.00 (0) All Hunters
4E	5.6 (246) Decreasing	Decreasing	2.78 ± 0.00 (0) All Hunters
4F	3.6 (140) Decreasing to Stable	Stable to Increasing	2.91 ± 4.51 (4)*** All Hunters

***** Small Sample**

Table 6a. Summary of white-tailed deer buck:doe:fawn ratios based upon observations by white-tailed deer hunters during the first Saturday and Sunday of the 2012 regular deer season.

Hunting Unit	2012 Hunter Obs. Buck:Doe:Fawn (Sample Size)
Turtle Mountains 1	0.24:1:0.82 (53:222:181)
Red River All Units	0.22:1:0.51 (259-1173-598)
2A	0.57:1:0.53 (30-53-28)
2B	0.39:1:0.44 (22:573:253)
2C	0.38:1:0.58 (207-547-317)
Pembina Hills 2D	0.43:1:0.63 (130-304-191)
Sheyenne-James River All Units	0.37:1:0.47 (1047-2836-1326)
2F1	0.38:1:0.61 (251-659-402)
2F2	0.34:1:0.37 (238-710-263)
2G	0.35:1:0.40 (118-340-135)
2G1	0.34:1:0.46 (207-617-281)
2G2	0.46:1:0.48 (233-510-245)
Devils Lake 2L	0.43:1:0.52 (269-630-327)
Coteau Hills All Units	0.44:1:0.55 (1454-3304-1806)
2E	0.38:1:0.48 (128-336-161)
2H	0.43:1:0.58 (228-525-305)
2I	0.45:1:0.47 (315-696-328)
2J1	0.41:1:0.18 (7-17-3)***
2J2	0.47:1:0.58 (308-661-382)

Table 6a (Continued).

Hunting Unit	2012 Hunter Obs. Buck:Doe:Fawn (Sample Size)
Coteau Hills 2K1	0.49:1:0.62 (133-273-168)
2K2	0.43:1:0.52 (269-630-327)
3A1	0.0:1:0.0 (0-0-0)
3A3	0.40:1:0.80 (66-166-132)
Souris Des Lacs All Units	0.35:1:0.54 (321-909-494)
3A2	0.30:1:0.36 (147-494-180)
3A4	0.42:1:0.76 (174-415-314)
Missouri River All Units	0.43:1:0.56 (552-1270-707)
3B1	0.0:1:0.0 (0-0-0)
3B2	0.0:1:0.0 (0-0-0)
3B3	0.46:1:0.63 (265-570-357)
3C	0.41:1:0.50 (287-700-350)
Slope All Units	0.38:1:0.44 (2097-5563-2470)
3D1	0.0:1:0.0 (0-0-0)
3D2	0.31:1:0.31 (4-13-4)***
3E1	0.42:1:0.49 (377-902-446)
3E2	0.62:1:0.76 (371-603-461)
3F1	0.30:1:0.43 (606-2022-869)
3F2	0.37:1:0.34 (739-2023-690)

Table 6a. (Continued).

Hunting Unit	2012 Hunter Obs. Buck:Doe:Fawn (Sample Size)
Badlands All Units (All Hunters)	0.23:1:0.39 (122-521-205)
4A (All Hunters)	0.0:1:0.0 (0-0-0)
4B (All Hunters)	0.0:1:0.0 (0-0-0)
4C (All Hunters)	0.0:1:0.0 (0-0-0)
4D (All Hunters)	0.0:1:0.0 (0-0-0)
4E (All Hunters)	0.0:1:0.0 (0-0-0)
4F (All Hunters)	0.23:1:0.39 (122-521-205)
Statewide (All Hunter Observations)	**0.38:1:0.50 (6536-17111-8586)**

***** Small Sample**

Table 7a. Summary of mule deer buck:doe:fawn ratios based upon fall 2012 aerial survey and observations by hunters during the first Saturday and Sunday of the 2012 regular deer season.

Hunting Unit	Fall 2012 Aerial Survey Buck:Doe:Fawn (Sample Size)	2012 Hunter Obs. Buck:Doe:Fawn (Sample Size)
Missouri River All Units	NA	0.28:1:0.55 (46-163-90) (All Hunters)
3B1	NA	0.0:1:0.0 (0-0-0)
3B2	NA	0.0:1:0.0 (0-0-0)
3B3	NA	0.21:1:0.59 (12-56-33)
3C	NA	0.32:1:0.53 (34-107-57)
Slope All Units	NA	0.30:1:0.32 (367-1225-386) (All Hunters)
3D1	NA	0.0:1:0.0 (0-0-0)
3D2	NA	0.20:1:0.20 (2-10-2)***
3E1	NA	0.28:1:0.16 (54-192-30)
3E2	NA	0.45:1:0.42 (60-134-56)
3F1	NA	0.27:1:0.29 (121-442-126)
3F2	NA	0.27:1:0.36 (130-447-172)

***** Small Sample**

Table 7a. (Continued).

Hunting Unit	Fall 2012 Aerial Survey Buck:Doe:Fawn (Sample Size)	2012 Hunter Obs. Buck:Doe:Fawn (Sample Size)
Badlands All Units	0.34:1:0.59 (233-623-368)	0.26:1:0.63 (10-38-24)***
4A	0.34:1:0.65 (32-94-61)	0.0:1:0.0 (0-0-0)
4B	0.42:1:0.55 (48-114-63)	0.0:1:0.0 (0-0-0)
4C	0.29:1:0.70 (23-80-56)	0.0:1:0.0 (0-0-0)
4D	0.38:1:0.58 (77-205-119)	0.0:1:0.0 (0-0-0)
4E	0.38:1:0.78 (27-72-56)	0.0:1:0.0 (0-0-0)
4F	0.45:1:0.22 (26-58-13)	0.26:1:0.63 (10-38-24)***
Statewide	**NA**	**0.30:1:0.34 (458-1520-521) (All Hunters)**

***** Small Sample**

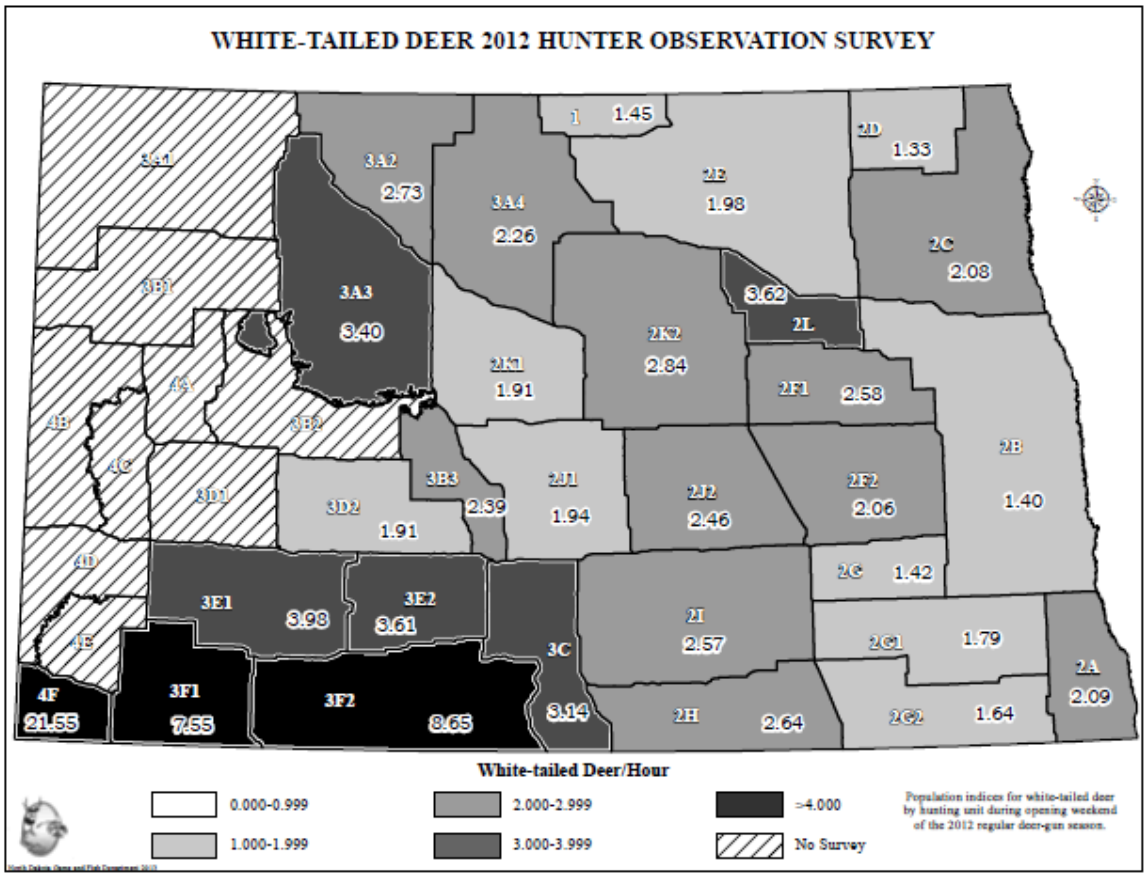

Figure 1. Map of North Dakota illustrating the use of observation rates by hunters (white-tailed deer sighted/hour of effort spent hunting) as a population index for each deer-hunting unit. Hunter observations were made during the first Saturday and Sunday of the regular 2012 deer-gun season. Year-to-year changes in hunter observation rates have been monitored statewide for white-tailed deer population trends since 2004.

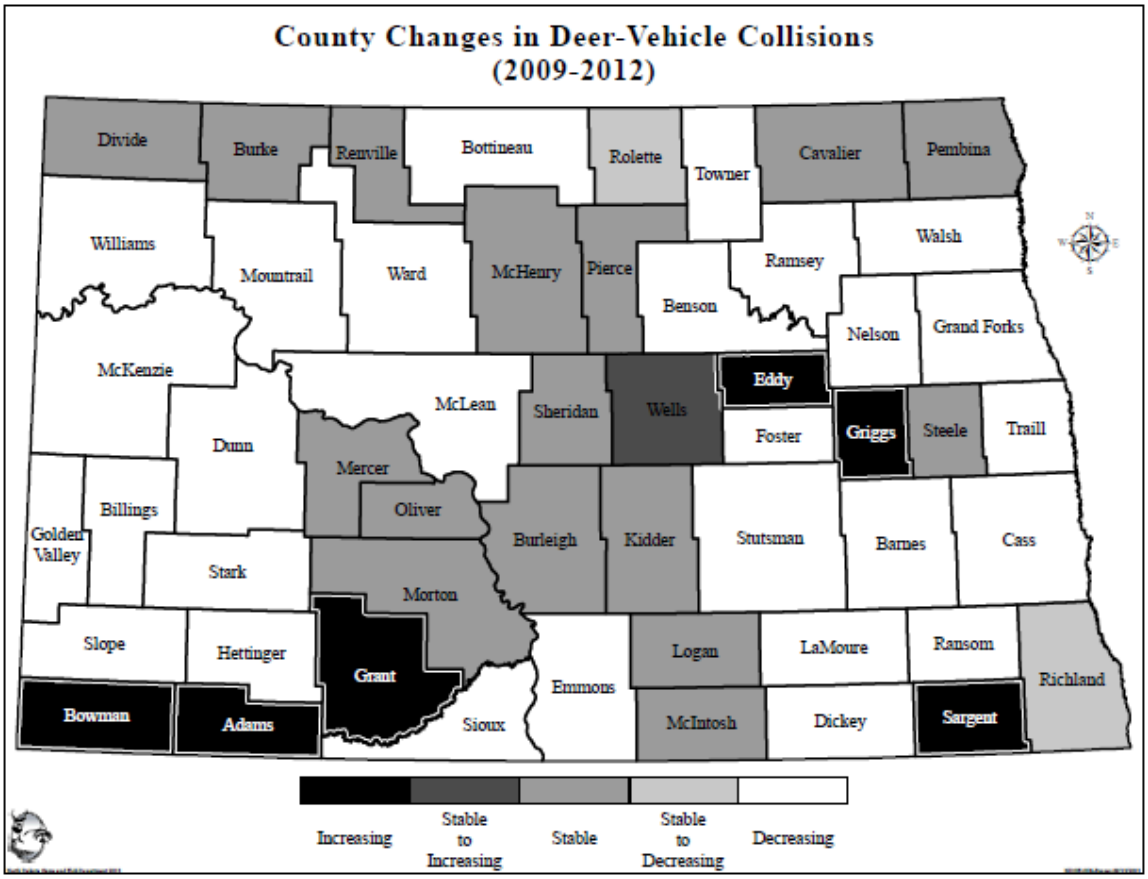

Figure 2. Map of North Dakota illustrating trends in Deer-Vehicle Collisions (DVC) as a population index for each county (2009-2012). Year-to-year changes in DVC rates have been monitored statewide for deer population trends since 2001.

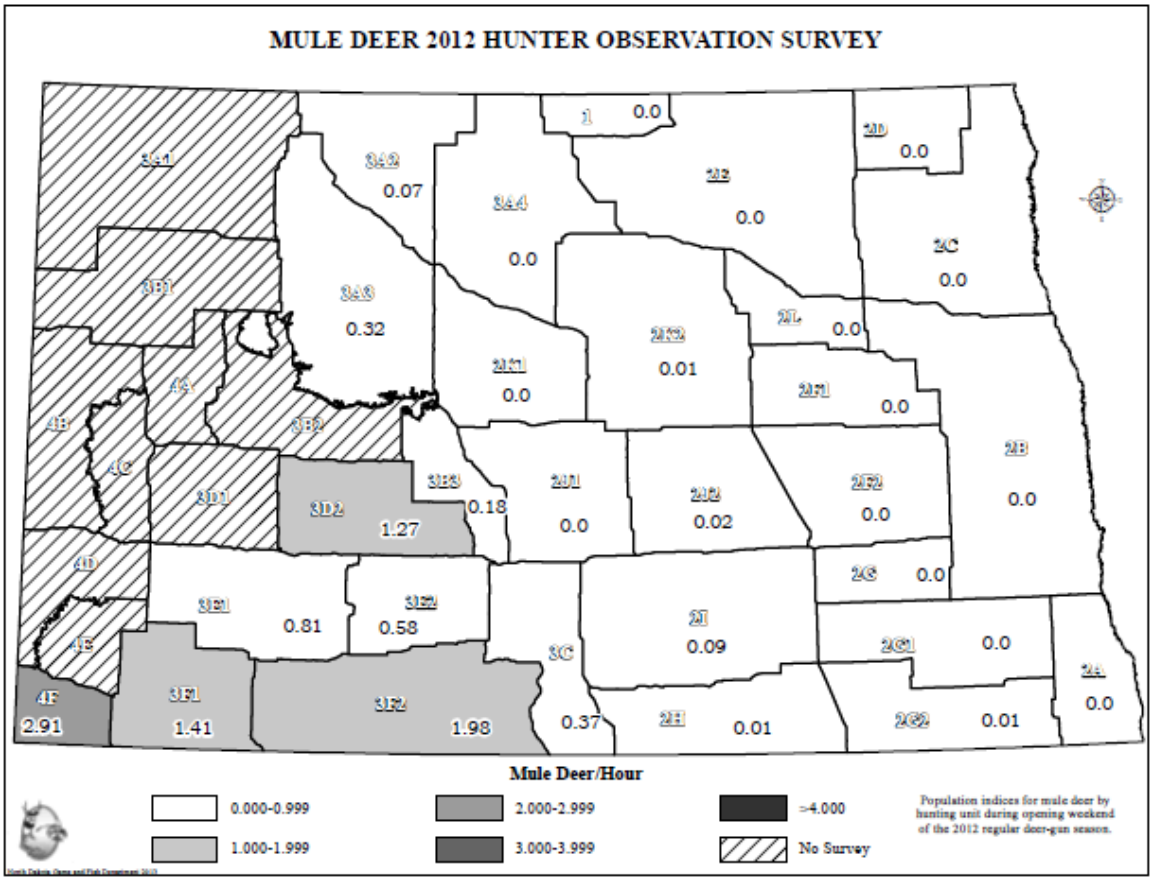

Figure 3. Map of North Dakota illustrating the use of observation rates by hunters (mule deer sighted/hour of effort spent hunting) as a population index for each deer-hunting unit. Hunter observations were made during the first Saturday and Sunday of the regular 2012 deer-gun season. Year-to-year changes in hunter observation rates have been monitored for mule deer population trends in the Badlands units (4A – 4F) since 1998, and statewide since 2004.

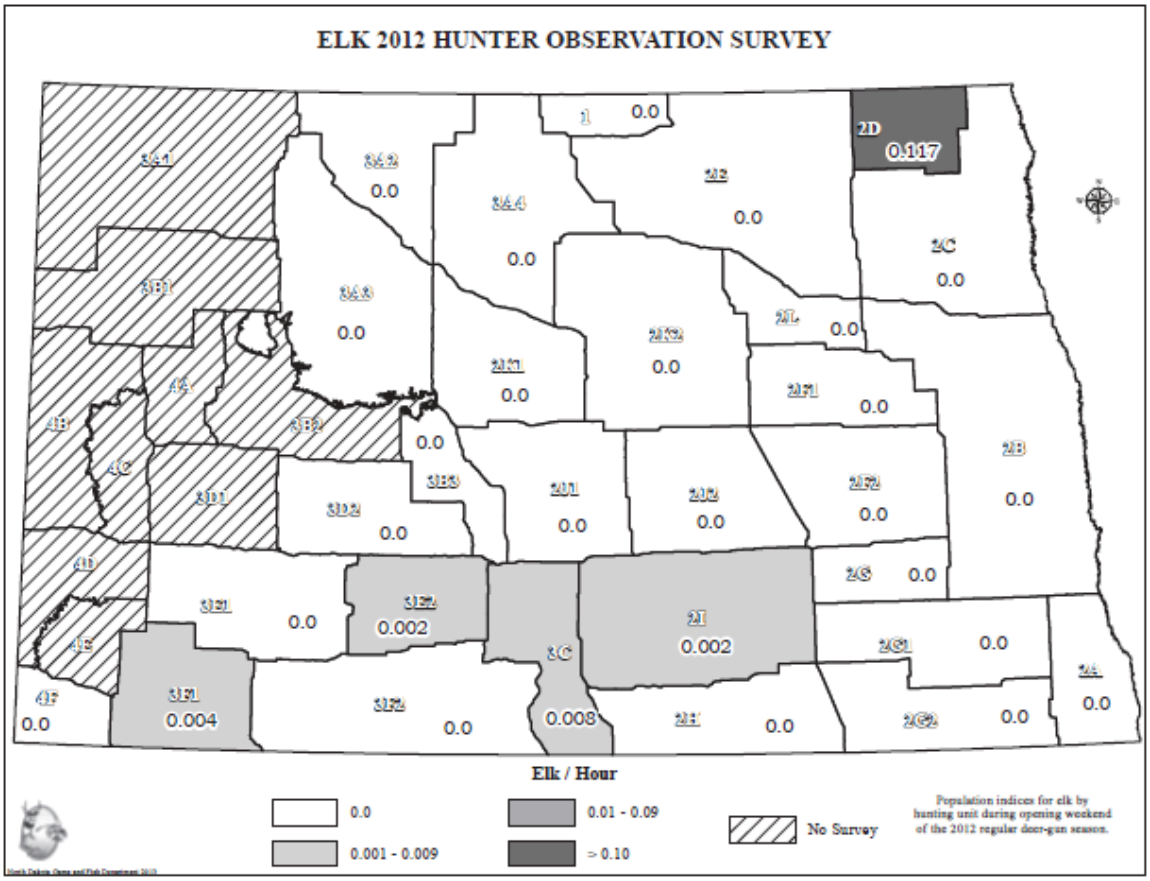

Figure 4. Map of North Dakota illustrating the use of observation rates by hunters (elk sighted/hour of effort spent hunting) as a population index for each deer-hunting unit. Hunter observations were made during the first Saturday and Sunday of the regular 2012 deer-gun season. Year-to-year changes in hunter observation rates have been monitored statewide for elk population trends since 2007.

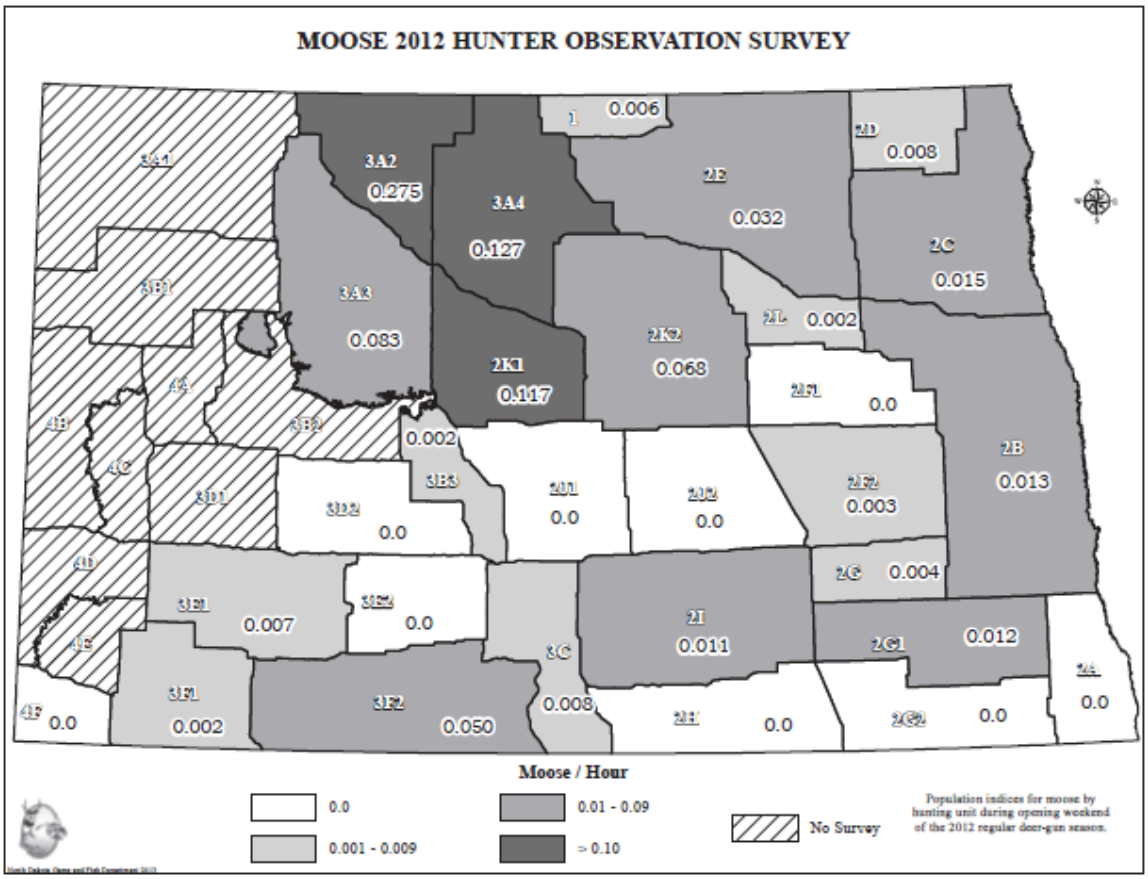

Figure 5. Map of North Dakota illustrating the use of observation rates by hunters (moose sighted/hour of effort spent hunting) as a population index for each deer-hunting unit. Hunter observations were made during the first Saturday and Sunday of the regular 2012 deer-gun season. Year-to-year changes in hunter observation rates have been monitored statewide for moose population trends since 2007.