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CHAPTER 4: DEER MANAGEMENT REPORT

From: 1 July 2012
To: 30 June 2014

LOCATION

GAME MANAGEMENT UNIT: Unit 2 (3,600 mi^2)

GEOGRAPHIC DESCRIPTION: Prince of Wales (POW) Island and adjacent islands south of Sumner Strait and west of Kashevarof Passage and Clarence Strait

BACKGROUND

Sitka black-tailed deer are found throughout Unit 2, both on Prince of Wales Island (POW) and the smaller associated islands. Deer populations fluctuate, primarily in response to severe winter weather, unfavorable changes in habitat resulting from clearcut logging, and predation by wolves and black bears. Deer abundance appears to be stable or slowly increasing, likely in response to mild winters during this reporting period in conjunction with low wolf and bear numbers. Managers continue to monitor range conditions for signs of over-abundance, but for now deer populations in Unit 2 appear healthy compared to other adjacent areas such as Units 1A and 3 where deer numbers are low.

Sitka black-tailed deer are highly valued for both their meat and their trophy value on POW. POW has a reputation for producing large-bodied and large-antlered bucks with a number of bucks qualify for the Boone and Crockett and Pope and Young record books each year. Winter severity, weather conditions during hunting season, and deer population levels are the main regulators of deer harvests. The annual harvest in Unit 2 this reporting period averaged 3,696 compared to 2,926 for the previous 10-year period (RY02–RY11; Table 1).

Hunting does is currently allowed under federal regulations however the practice remains controversial. In 1995, despite state opposition, the Federal Subsistence Board implemented a 2.5-month-long antlerless deer season in Unit 2. The federal antlerless deer season remains in effect, running from October 15 through December 31, and allows hunters who qualify to participate in federal subsistence hunts to harvest 1 female deer as part of their 5-deer bag limit. A 3-week state antlerless season was initiated in Unit 2 during regulatory year (RY) 1987, but was discontinued a year later due to public opposition. The bag limit remains 4 bucks for individuals hunting under state regulations.

The current population of Unit 2 is about 3,600 people, down from nearly 6,000 at the turn of the century. The population peaked in the 1960s and 1970s and declined along with the decline of the old-growth logging industry. The City of Craig is the largest community in Unit 2, with

approximately 1,100 residents, followed by the communities of Klawock and Thorne Bay. Despite the recent decline in the human population, demand for deer hunting opportunity in Unit 2 remains strong. In addition to local residents, Unit 2 is also a popular deer hunting area for residents of other Southeast Alaska communities, particularly Ketchikan, and nonresident hunters.

Clearcut logging has been widespread in Unit 2 since the late 1950s. Counting National Forest, state, and private land, over 300,000 acres of old growth forest have been logged, and over 5,000 miles of roads have been built. Logging and road-building are ongoing, albeit at lower levels than in the past. Road building has greatly increased hunter access, and logging has focused on productive old-growth forest below 800 feet elevation, which is critical habitat for deer during winters with significant snow. Further, 25–35 years after being clearcut, regenerating stands of trees form dense even-aged canopies which block most light and shade-out forbs and shrubs that deer depend on as forage. To date thinning schemes have shown little potential to improve value of regenerating stands for deer. Consequently, it appears that much formerly productive deer habitat in Unit 2 will remain unproductive for many decades and the population will remain vulnerable to die-offs during winters with deep snow.

MANAGEMENT DIRECTION

MANAGEMENT GOALS

Action by the Board of Game in fall 2000 established a Unit 2 Intensive Management (IM) population objective of 71,000 deer and a harvest objective of 2,700 deer. This action was based on the board identifying the Unit 2 population as important for satisfying high levels of human consumptive use.

MANAGEMENT OBJECTIVES

- Maintain populations in excess of 45 deer per mi^2 of winter range, as determined by mean pellet-group densities of 1.4 pellet groups per plot (Kirchhoff 1990).

METHODS

We collected population information from anecdotal reports provided by hunters and from field observations. We were unable to conduct spring pellet-group surveys and spring mortality transects during the reporting period because regional priorities shifted to more focused data collection in Units 1A and 3 associated with intensive management activities. We intend to conduct spring pellet counts again beginning in 2015. A new technique for estimating deer abundance developed on POW by Todd Brinkman, PhD identifies individual deer using fecal DNA and uses a DNA-based mark-recapture technique to measure abundance within specific study sites, usually a watershed (Brinkman 2009). Although the technique appears promising, questions remain about applying the study area findings to a larger landscape.

From 1980 (except 1981) through 2010 we collected deer harvest information using a region-wide questionnaire mailed to a random sample of 33% of deer harvest ticket holders (ADF&G 2012). Information provided by respondents was expanded to estimate total harvest for the unit. To address questions surrounding allocation of deer harvest among residents of Unit 2, other Alaska residents, and nonresident hunters, from 2005 through 2010 Unit 2 deer hunters were required to obtain and complete a deer harvest report form specific to the unit. Those hunters

were removed from the region-wide mail-out survey. Beginning in fall 2011, we began collecting harvest information using a statewide deer harvest ticket report, similar to that used for species such as black bear, moose, caribou and sheep. Those data are also expanded to account for harvest ticket holders who did not respond. A preliminary analysis found that the deer hunter questionnaire and new harvest ticket reports produced comparable results.

Please note that there may be discrepancies between data in this report and management reports from previous reporting periods. DWC deleted many records and reloaded data from 1997-2010 in the WinfoNet database as a result of questionable records found in the database. In most cases, these data differences are minimal and the current data is the best available.

RESULTS AND DISCUSSION

MORTALITY

Harvest

Season and Bag Limit	Resident and Nonresident Hunters	
Unit 2	1 August–31 December	4 bucks
	Federally Qualified Subsistence Hunters	
	24 July–31 December	5 deer, however, no more than one may be an antlerless deer.

Board of Game Actions and Emergency Orders. The Board of Game took no actions affecting Unit 2 deer hunting, and no emergency orders were issued during the report period.

Hunter Harvest. Deer harvest in Unit 2 during the reporting period was estimated at 3,690 (RY12) and 3,702 (RY13) deer, both well above the IM harvest objective of 2,700 and the 10-year average annual harvest (RY02–RY11) of 2,926. The number of deer harvested per hunter was 1.5 in both RY12 and RY13, identical to the 10-year average (RY02–RY11 of 1.5 deer per hunter. The average of 3.5 and 3.4 hunter days per deer during RY12 and RY13, respectively, was similar to the 10-year average (RY02–RY11) of 3.5 days per deer. Overall hunter success rates in RY12 and RY13 were also very high at 73% each year, and slightly higher than the 10-year average (RY02–RY11) of 71% success (Table 1). Harvest during RY12 and RY13 on POW itself was 3,144 and 3,143 deer, respectively, above the 10-year average (RY02–RY11) of 2,655 (Table 2). This harvest data is consistent with anecdotal and field observations in Unit 2, which all suggest that deer in Unit 2 are stable to increasing and relatively abundant.

Hunter Residency and Success. Ketchikan hunters' share of the Unit 2 harvest during the report period was 30%, similar to the 10-year average (RY02–RY11) of 29% (Table 3). An estimated 48% of the hunters harvesting deer in Unit 2 during this report period were residents of POW. Residents of POW had a higher success rate than other hunters, with residents enjoying an average success rate of 82% during the report period (Table 4). Higher than average numbers of nonresidents hunted deer in Unit 2 during this report period. Nonresident hunters numbered 198 and 212 during RY12 and RY13, respectively. The 10-year average (RY02–RY11) is 142 per year. The nonresident success rate during the report period was 56%, slightly higher than the 10-year average (RY02–RY11) of 50%. This indicates a robust deer population and perhaps an increase in guided hunting activity (Table 4). As black bear hunting opportunities diminish on

POW many lodges, outfitters and guides may be shifting focus to deer hunting. Over the past 5 years the ADF&G office in Craig has noted an increase in nonresident inquiries about deer hunting in Unit 2, particularly from hunters interested in taking a Sitka black-tailed deer as part of their North American "deer slam." Recent harsh winters on Kodiak Island in Unit 8 caused significant declines in that deer population. Some increase in nonresident hunters on POW may be a result of nonresidents who normally hunt Kodiak shifting effort to POW. As Kodiak deer rebound, managers expect nonresident focus to shift back to that unit.

The average annual reported doe harvest over the past 10 seasons (RY02–RY11) has been 108, or approximately 3.7% of the overall reported harvest. During the RY12 season, 109 does were reported harvested under federal subsistence permits in Unit 2. During RY13, hunters reported the harvest of 91 does (Table 5). With populations nearing carrying capacity in potions of Unit 2, a limited doe harvest is warranted. However, anecdotal evidence and testimony from local residents suggests that the doe harvest by federal subsistence hunters is likely substantially under-reported.

Despite abundant deer, historically high harvests, and liberal seasons and bag limits, hunters from rural communities continue to complain about their inability to meet their subsistence needs. In some cases data from hunter reports substantiate those concerns. Among rural residents there is a perception of increased hunting pressure. The number of hunters for this reporting period (2,468 and 2,459 in RY12 and RY13, respectively), are the highest in the last 10 years (RY02–RY11), and 22% higher than the 10-year average (Table 1). The recently enacted Access Travel Management Plan (ATM) by the USFS will close 150 miles of existing logging roads to highway vehicles and convert an additional 222 miles from highway vehicle use to OHV use only (USDA 2009)**.** Road closures may direct the same number of hunters into smaller areas, affirming the perception of increasingly crowded hunting conditions. In addition, as clear-cuts regenerate, deer become less visible, fueling speculation that fewer deer are available for harvest. State and federal managers will continue to struggle with balancing ADF&G's mission of wildlife conservation with the Federal Subsistence Board's mission to provide subsistence resources for rural residents under the Alaska National Interest Lands Conservation Act.

Harvest Chronology. Most Unit 2 deer are harvested during August, October and November. From 2004 through 2013, August and October harvests were roughly equal accounting for 16% and 17% of the harvest, respectively. August harvest levels were traditionally much higher but beginning in 2003 significant changes were implemented to federal deer hunting regulations that restricted non-federally qualifying hunters from participating during the first 2 weeks of August. Federally qualified hunters are also taking advantage of the late July opening day for the season. For hunters not qualified to hunt under federal regulations, November, which coincides with the rut, is now by far the most popular period to hunt deer and accounts for roughly 42% of the total harvest (Table 6).

Transport Methods. With the extensive road system in Unit 2, highway vehicles typically represent the primary method of access for deer hunters. During this reporting period 62% of hunters accessed opportunity using highway vehicles, whereas only about 27% of deer hunters used boats. Those proportions compare to 66% and 24% respectively for the 10-year average (RY02 – RY11) (Table 7).

Other Mortality

We believe that Unit 2 has one of the highest illegal and unreported harvest rates in the region, estimated to be equal to the legal harvest (Table 5). That estimate is based on anecdotal reports, interviews with law enforcement personnel, and fates of radio-collared deer. If that estimate is correct, over 4% of the estimated 75,000 deer in Unit 2 may be illegally harvested each year. This high illegal take is likely due in large part to the extensive and remote road system and few law enforcement personnel patrolling the unit.

Flynn and Suring (1989) reported that actual mortality from legal hunting could be 38% greater than the estimated harvest because of unknown or unreported crippling loss. Field observations and voluntary reports of wounding loss suggest that this estimate might be conservative.

Historically and prior to extensive road paving on the island, deer/vehicle collisions were rare (10–25 deer/year) and were not considered a significant source of mortality. However, the collision risk increased with completion in 2003 of extensive new POW highway paving projects, which now extend from Craig to Coffman Cove and east to Thorne Bay. Construction and paving of the main 30 road to Coffman Cove was completed in 2008. Construction is currently underway to extend the paved surface of Road 20 to Whale Pass. Higher vehicle speeds, as well as an attractive food source created by planting grass for erosion control near the roads will likely cause more deer/vehicle collisions, prompting managers to raise estimates to 30-50 deer per year beginning in 2004.

HABITAT

Assessment

Although timber harvest peaked in the 1980's and early 1990's, occasional large sales continue. The recent Logjam Timber sale, involving 73 million board feet of timber, resulted in clear-cut logging of approximately 3,400 acres of old-growth forest. Another highly controversial sale called the Big Thorne was scheduled to begin in April 2015. The record of decision (ROD) for this sale was signed in June 2013 but was delayed by the regional forester pending review of wolf habitat concerns and also delayed by lawsuits from several conservation organizations. A federal judge upheld the ROD in March 2015, although defendants in the case have appealed the decision and requested an injunction. This sale will authorize an additional 149 million board feet of timber and approximately 6,200 acres old growth forest to be clearcut, making it the largest timber sale on the Tongass National Forest in decades. Many of the old growth stands slated for harvest are among the last remaining stands of high quality deer winter habitat and travel corridors within their respective drainages within the central part of POW. In addition, the Sealaska Lands Bill passed Congress in December 2014. That bill transfers 70,000 acres or approximately 110 square miles of old-growth forest from the Tongass National Forest to the Sealaska Corporation. Most of that land is within Unit 2 and will be subject to clearcut logging. Sizeable units on State of Alaska and Alaska Mental Health Trust lands in the Control Junction and Coffman Cove areas are currently being logged, further contributing to the loss of high quality deer habitat.

Although early seral stages of clear-cuts provide abundant deer forage during snow free periods, within 20 to 30 years the regenerating second-growth forest reaches the stem exclusion stage where the canopy closes and shades out understory plants important for deer forage. Road

construction associated with logging activities continually increases access to deer and other wildlife habitat. As clearcut logging continues to remove old-growth forest habitat in Unit 2, deer populations are expected to decline. In a study of the relationship between habitat and predation of Columbian black-tailed deer on Vancouver Island, British Columbia, McNay and Voller (1995) found that logging and associated road construction fragments deer winter range and concentrates predation on resident deer. They concluded that large blocks of intact old-growth forest at low elevations are essential to sustaining healthy deer populations.

Old-growth forest retains important winter forage and intercepts snowfall making that forage more available to deer during periods of deep snow. Population models estimate declines in carrying capacity for deer of 50–60% by the end of the U. S. Forest Service planned logging rotation in 2054. By then we expect few areas within road accessible and logged portions of Unit 2 will meet projected hunter demand for deer (USFS 1989). The USFS is investigating thinning and other ways of creating openings in the canopy of second-growth forest, but any benefits to deer may be short-lived and will not provide winter habitat (Farmer et. al. 2006). Long-term consequences of habitat loss are likely to include reductions in deer hunting opportunity and an inability to provide for subsistence needs.

CONCLUSIONS AND RECOMMENDATIONS

According to estimates based on harvest ticket reports, the Unit 2 harvest objective of 2,700 deer per year was exceeded during both years of this reporting period. In fact, anecdotal accounts from hunters and public testimony during a multi-agency Unit 2 deer planning effort in 2005 (Unit 2 Deer Planning Subcommittee 2005) suggested that we probably continue to significantly underestimate the total number of deer harvested because illegal and unreported harvest appear to be substantial. If that is the case, actual harvest may be more than double the harvest objective.

The reported harvest along with average deer per hunter and the average hunter days per deer during the past 2 years indicate good recruitment and stable to increasing deer numbers in Unit 2. Both the total number of hunters and the number of successful hunters increased during the reporting period, and despite increased hunting pressure success rates remain high. However, managers are concerned that in some drainages the population may be near carrying capacity, and that a severe winter could result in a substantial die-off.

We should better inform the public regarding the effects of logging on deer populations, so that they are aware of tradeoffs between timber harvest and wildlife. We anticipate that logging related reductions in important winter habitat will reduce deer carrying capacity for decades to come. The long term consequences of habitat loss include loss of hunting opportunity and the inability to provide for subsistence needs of rural residents (Wood 1990, Larsen 1993).

Effects of climate change on deer and deer habitat remain unknown. Anticipated declines in deer carrying capacity coupled with steady or increasing demand for deer will require that we closely monitor Unit 2 deer populations and develop management strategies to adapt to changing conditions.

REFERENCES CITED

ADF&G (Alaska Department of Fish and Game). 2012. Region I deer harvest reports: Deer harvest database of hunter survey results, 1997–2010, Wildlife Information Network (WinfoNet). Division of Wildlife Conservation, Anchorage. [URL not publicly available as some information is confidential].

Brinkman, T. 2009. Resilience of a deer hunting system in southeast Alaska: integrating social, ecological, and genetic dimensions. Doctoral dissertation, University of Alaska-Fairbanks.

Farmer, C. J., D. K. Person, and R. T. Bowyer. 2006. Risk factors and mortality of black-tailed deer in a managed forest landscape. Journal of Wildlife Management 70:1403–1415.

Flynn, R. W. and L. Suring. 1989. Harvest rates of Sitka black-tailed deer populations in Southeast Alaska for land-use planning. Unpublished report.

Kirchhoff, M. D. 1990. Deer pellet-group surveys in Southeast Alaska. Alaska Department of Fish and Game, Douglas, Alaska.

Larsen, D. N. 1993. Deer management report of survey-inventory activities. Pages 1–20 [*In*] S. M. Abbott, editor. Alaska Department of Fish and Game, Division of Wildlife Conservation, Federal Aid in Wildlife Restoration Project W-23-4 and W-23-5, Study 2.0, Juneau.

McNay, R. S. and J. M. Voller. 1995. Mortality causes and survival estimates for adult, female Columbian Black-Tailed Deer. Journal of Wildlife Management 59:138–146.

Unit 2 Deer Planning Subcommittee. 2005. Unit 2 Deer Management. Southeast Alaska Subsistence Regional Advisory Council, Anchorage.

U.S. Forest Service. 1989. 1989–94 operating period for the Ketchikan Pulp Company. Long-term Sale Area, Final Environmental Impact Statement, USDA Forest Service, R-10-MB-66h.

USDA (United States Department of Agriculture) Forest Service. 2009. Access travel management plan environmental assessment Prince of Wales and surrounding islands. Craig and Thorne Bay ranger districts. Tongass National Forest, Alaska.

Wood, R. E. 1990. Deer survey-inventory progress report. Pages 1–13 *in* S. O. Morgan, editor. Annual report of survey-inventory activities. Part VI. Deer. Vol. XX. Alaska Department of Fish and Game. Federal Aid Wildlife Restoration Progress Report, Project W-23-2, Study 2.0, Juneau.

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While this unit report was actually published in 2016, it is part of the set of 2015 unit species management reports, so we suggest citing the report as a 2015 report to maintain its relationship to the other 2015 unit reports.

Product names used in this publication are included for completeness but do not constitute product endorsement.

Table 1. Unit 2 deer harvest data, regulatory years 2002 through 2013.

Regulatory year	No. hunters	No. successful hunters	Percent successful	Total hunter days	Average hunter days	Total deer[a]	Average deer per hunter	Average hunter days per deer
2002[b]	1,850	1,122	61	10,426	5.6	1,805	1.2	4.8
2003[b]	1,390	887	64	8,014	5.8	2,176	1.3	4.4
2004[b]	1,410	1,038	74	6,819	4.8	2,184	1.5	3.1
2005[b]	1,824	1,322	72	9,194	5.0	2,744	1.5	3.4
2006[b]	2,072	1,548	75	10,102	4.9	3,326	1.6	3.0
2007[b]	2,005	1,385	69	10,521	5.2	2,854	1.4	3.7
2008[b]	2,114	1,511	71	11,122	5.3	3,319	1.6	3.4
2009[b]	2,108	1,567	74	11,681	5.5	3,340	1.6	3.5
2010[b]	2,250	1,682	75	11,823	5.3	3,626	1.6	3.3
2011[c]	2,229	1,680	75	13,271	6.0	3,882	1.7	3.4
2012[c]	2,468	1,795	73	12,972	5.3	3,690	1.5	3.5
2013[c]	2,459	1,800	73	12,663	5.2	3,702	1.5	3.4
Average	1,925	1,374	71	10,297	5.3	2,926	1.5	3.5

[a] Includes the reported harvest of does.

[b] Estimates calculated from hunter questionnaires sent to about 30% of deer harvest ticket holders.

[c] Estimates calculated from mandatory hunt reports distributed with deer harvest tickets.

Table 2. Expanded Unit 2 deer harvest from Prince of Wales Island only, regulatory years 2002 through 2013.

	Regulatory Year	Nr hunters expanded[a]	Nr successful hunters expanded[a]	Percent successful	Hunter days expanded[a]	Average days per hunter	Average deer per hunter	Deer killed
POW Island	2002[b]	1,761	1061	60	10,120	5.7	1.2	2,053
	2003[b]	1,311	828	63	7,608	5.8	1.3	1,650
	2004[b]	1,335	973	73	6,396	4.8	1.5	2,018
	2005[b]	1,726	1,234	71	8,676	5.0	1.5	2,540
	2006[b]	1,960	1,451	74	9,589	4.9	1.6	3,097
	2007[b]	1,910	1,312	69	10,044	5.3	1.4	2,645
	2008[b]	1,983	1,399	71	10,310	5.2	1.5	2,959
	2009[b]	1,958	1,441	74	10,706	5.5	1.5	2,987
	2010[b]	2,125	1,578	74	11,035	5.2	1.5	3,229
	2011[c]	2,056	1,559	76	11,983	5.9	1.6	3,373
	2012[c]	2,258	1,607	71	11,744	5.2	1.4	3,144
	2013[c]	2,217	1,605	72	11,287	5.1	1.4	3,143
	Average	1,813	1,284	71	9,647	5.3	1.5	2,655

[a] Expanded numbers are derived from a multiplier applied to survey results to yield totals for the area.

[b] Estimates calculated from hunter questionnaire sent to about 30% of deer harvest ticket holders.

[c] Estimates calculated from mandatory hunt reports distributed with deer harvest tickets.

Table 3. Expanded Unit 1A (Ketchikan) hunters deer hunting effort and harvest in Unit 2, regulatory years 2002 through 2013[a].

Regulatory year	Residents of Unit 1A		Total 1A Resident Hunters	Total Hunters Unit 2	Deer Harvested by 1A Res.	Total Deer Harvested Unit 2
	Successful Hunters	Unsuccessful Hunters				
2002[b]	417	316	733	1,850	766	1,805
2003[b]	321	226	547	1,390	593	2,176
2004[b]	425	182	607	1,410	900	2,184
2005[b]	373	143	516	1,824	701	2,744
2006[b]	387	196	583	2,072	767	3,326
2007[b]	370	201	571	2,005	743	2,854
2008[b]	456	201	657	2,114	944	3,319
2009[b]	443	191	634	2,108	848	3,340
2010[b]	484	196	680	2,250	1,023	3,626
2011[c]	479	205	684	2,229	1,137	3,882
2012[c]	571	215	786	2,468	1,187	3,690
2013[c]	502	207	709	2,459	1,000	3,702
Average	416	206	621	1,925	842	2,926

[a] Expanded numbers are derived from a multiplier applied to survey results to yield totals for the area.

[b] Estimates calculated from hunter questionnaire sent to about 30% of deer harvest ticket holders.

[c] Estimates calculated from mandatory hunt reports distributed with deer harvest tickets.

Table 4. Unit 2 hunter residency and success, regulatory years 2002 through 2013[a].

Regulatory year	Successful				Unsuccessful			
	Unit 2 resident[b]	Nonlocal resident	Nonresident	Total	Unit 2 resident[b]	Nonlocal resident	Nonresident	Total
2002[c]	548	574	0	1,122	301	427	0	728
2003[c]	475	412	0	887	172	331	0	503
2004[c]	475	563	0	1,038	126	246	0	372
2005[c]	742	491	89	1,322	176	217	107	500
2006[c]	756	723	65	1,544	147	277	83	507
2007[c]	721	590	75	1,386	165	303	151	619
2008[c]	719	693	100	1,512	189	302	111	602
2009[c]	745	657	139	1,541	149	291	88	528
2010[c]	789	724	136	1,649	161	308	88	557
2011[d]	799	770	102	1,671	122	339	86	547
2012[d]	812	858	111	1,781	186	392	87	665
2013[d]	804	849	119	1,772	195	363	93	651
Average	677	620	71	1,367	171	304	71	546

[a] Table does not include hunters with unknown residency.

[b] Local residents include Alaskan residents living within Unit 2 boundaries.

[c] Estimates calculated from hunter questionnaire sent to about 30% of deer harvest ticket holders.

[d] Estimates calculated from mandatory hunt reports distributed with deer harvest tickets.

Table 5. Unit 2 reported and estimated deer harvest/mortality, regulatory years 2002 through 2013.

Regulatory year	Reported harvest			Unreported & illegal harvest[a]	Estimated total harvest	Estimated no. road kills
	Male	Female	Total			
2002[b]	1,736	69	1,805	1,805	3,610	30-50
2003[b]	2,085	91	2,176	2,176	4,352	30-50
2004[b]	2,090	94	2,184	2,184	4,368	30–50
2005[b]	2,630	114	2,744	2,744	5,488	30–50
2006[b]	3,215	111	3,326	3,326	6,652	30–50
2007[b]	2,756	98	2,854	2,854	5,708	30–50
2008[b]	3,193	126	3,319	3,319	6,638	30–50
2009[b]	3,187	153	3,340	3,340	6,680	30–50
2010[b]	3,525	101	3,626	3,626	7,252	30–50
2011[c]	3,762	120	3,882	3,882	7,764	30–50
2012[c]	3,581	109	3,690	3,690	7,380	30–50
2013[c]	3,611	91	3,702	3,702	7,404	30–50
Average	2,818	108	2,926	2,926	5,851	30–50

[a] Unreported and illegal harvest estimated at 100% of reported harvest.

[b] Estimates calculated from hunter questionnaire sent to about 30% of deer harvest ticket holders.

[c] Estimates calculated from mandatory hunt reports distributed with deer harvest tickets.

Table 6. Unit 2 deer harvest chronology, regulatory years 2002 through 2013.

	Month of kill						
Regulatory year	July[a]	Aug	Sep	Oct	Nov	Dec	Unk/ other
2002[b]	0	605	276	401	672	79	149
2003[b]	78	284	287	357	567	49	182
2004[b]	68	310	240	481	811	61	213
2005[b]	210	504	399	503	897	76	154
2006[b]	189	501	460	538	1,329	153	158
2007[b]	128	428	300	450	1,218	121	210
2008[b]	116	494	362	522	1,525	167	132
2009[b]	122	488	263	510	1,658	183	117
2010[b]	156	471	281	594	1,669	178	278
2011[c]	220	619	290	598	1,918	197	41
2012[c]	142	460	306	557	1,879	315	32
2013[c]	167	485	282	461	2,100	174	34
Average	143[d]	470	316	495	1226	126	163

[a] Federal subsistence deer hunting season opens July 24.

[b] Estimates calculated from hunter questionnaire sent to about 30% of deer harvest ticket holders.

[c] Estimates calculated from mandatory hunt reports distributed with deer harvest tickets.

[d] Average does not include RY02 when there was no July season.

Table 7. Unit 2 hunter transport method, regulatory years 2002 through 2013.

Regulatory year	Method of transportation[a]					
	Airplane	Boat	Foot	Highway vehicle[b]	Other	Unk
2002[c]	34	345	38	1,077	0	69
2003[c]	75	426	41	1,469	0	28
2004[c]	32	330	33	1,113	0	31
2005[c]	80	391	41	1,432	0	56
2006[c]	81	526	56	1,569	0	35
2007[c]	93	480	43	1,502	0	32
2008[c]	84	794	73	1,306	1	87
2009[c]	69	623	57	1,479	0	76
2010[c]	54	562	71	1,668	0	145
2011[d]	76	637	215	1,478	12	112
2012[d]	101	716	195	1,605	9	80
2013[d]	90	720	60	1,737	7	88
Average	68	511	67	1409	3	67

[a] Numbers of successful and unsuccessful hunter trips.

[b] Includes cars, trucks, and off-road vehicles (3- and 4-wheelers).

[c] Estimates calculated from hunter questionnaire sent to about 30% of deer harvest ticket holders.

[d] Estimates calculated from mandatory hunt reports distributed with deer harvest tickets.