

2014 Sage-grouse Harvest Report

The 2014 Sage-grouse report provides information on the estimated harvest of Sage-grouse. A post-season harvest survey was conducted by phone and email. A stratified random sample of 3,500 potential Sage-grouse hunters was drawn from among Harvest Information Program (HIP) participants. The sample was stratified as follows:

- 1 = Not Likely to hunt
- 2 = Somewhat Likely to hunt
- 3 = Very Likely to hunt
- 4 = Very Likely to hunt for 3 or more years

Harvest Data Summary

The survey contacted 1,478 (42.2% response rate) hunters in 2014. Approximately 9.6% (142) reported hunting Sage-grouse during the season. Fifty-seven (57) hunters (40.1%) reported that they successfully harvested Sage-grouse. The number of days hunted ranged from 1 (60 hunters) to 7 (12 hunters) and individual harvest ranged from 1 (23 hunters) to 14 (1 hunter). **Statewide harvest was estimated at 1,471 ± 853 (619 – 2,323).**

Comparison with 2013 survey results:

Comparing the figures for the Sage-grouse season for both years, the estimated harvest in 2014 is tremendously higher than 2013 when an estimated 264 ± 96 (183 - 380) birds were harvested. Hunter numbers increased in 2014 to **1,098 ± 353 (746 – 1451)** from 241 ± 41 (204 – 285) in 2013. Total days hunted increased in 2014 to **2,929 ± 1,323 (1606 – 4251)** from 686 ± 163 (542 – 869) in 2013.

Discussion

According to survey data, Sage-grouse harvest increased by a factor of six between the 2013 and 2014 harvest estimates, while total hunter numbers and days hunted increased similarly (4.5X and 4.3X respectively). While these increases in harvest estimate, hunter number and days hunted do not follow recent trends (2010-13), they are not out of line with estimates from the 2004-09 period when harvest estimates exceeded 1,000 in every year except 2006.

CPW performed an analysis of the survey results to determine why these increases occurred. One major change that occurred between 2013 and 2014 was that CPW used a different vendor to perform the survey. Both the past and current vendors used the same methodology (internet and live operator survey) and survey standards using a CPW-provided stratified, random sample from Harvest Information Program (HIP) response data. No changes in CPW sampling protocols occurred in 2014, and CPW has been unable to find errors within the data set that would contribute to large increases in harvest estimate, hunter numbers and effort (days hunted).

A significant change identified was a larger than normal number of hunters in HIP stratum's 1-3 responded to the post season harvest survey that they did hunt Sage-grouse in 2014, which generated significantly higher estimates of hunters in stratum 1-3 (see table below). The most pronounced difference between 2013 and 2014 was found in the stratum 2 hunters. In 2013, CPW estimated, based on survey response data, that 12 hunters within the stratum 2 subset actually hunted sage-grouse. In 2014, based on survey response data, the estimate of stratum 2 hunters is 526. Although not to the degree of stratum 2 hunters, similar increases exist within the stratum 1 and 3 subsets in 2014, leading to a large and significant increase in the total sage-grouse hunter estimate and thereby an increase in total sage-grouse harvested.

Strata	2013	2013	2014	2014
	Hunter Estimate	Harvest Estimate	Hunter Estimate	Harvest Estimate
(1) Not Likely	7	0	140	280
(2) Somewhat Likely	12	7	526	778
(3) Very Likely	124	140	341	307
(4) Very Likely for >3 years	97	117	91	107

As an additional measure, CPW calculated an estimate of average birds harvested per hunter from 1999-2014. In 2014, hunters averaged 1.3 birds per hunter, suggesting that average hunting success was slightly higher than the long term average of 1.2 birds per hunter and the 2013 estimate of 1.1 birds per hunter.

Hunter Statistics and Harvest Estimates by Strata and County

The following summary tables provide estimates of hunter numbers, days in the field and Sage-grouse harvest statewide and by county. Estimates are followed by the standard error of the estimate, and 95% upper (UCI) and lower (LCI) confidence intervals around the estimate. In 2014, Colorado Parks and Wildlife attempted to reduce erroneous harvest location responses by allowing answers that correspond to greater sage grouse occurrence and where legal hunting seasons occur. All other location responses – for instance if a hunter said he hunted Sage-grouse in Yuma County, were cached into an “Unknown” category, and eliminated from the data set.

2014 Sage-grouse Harvest by Strata

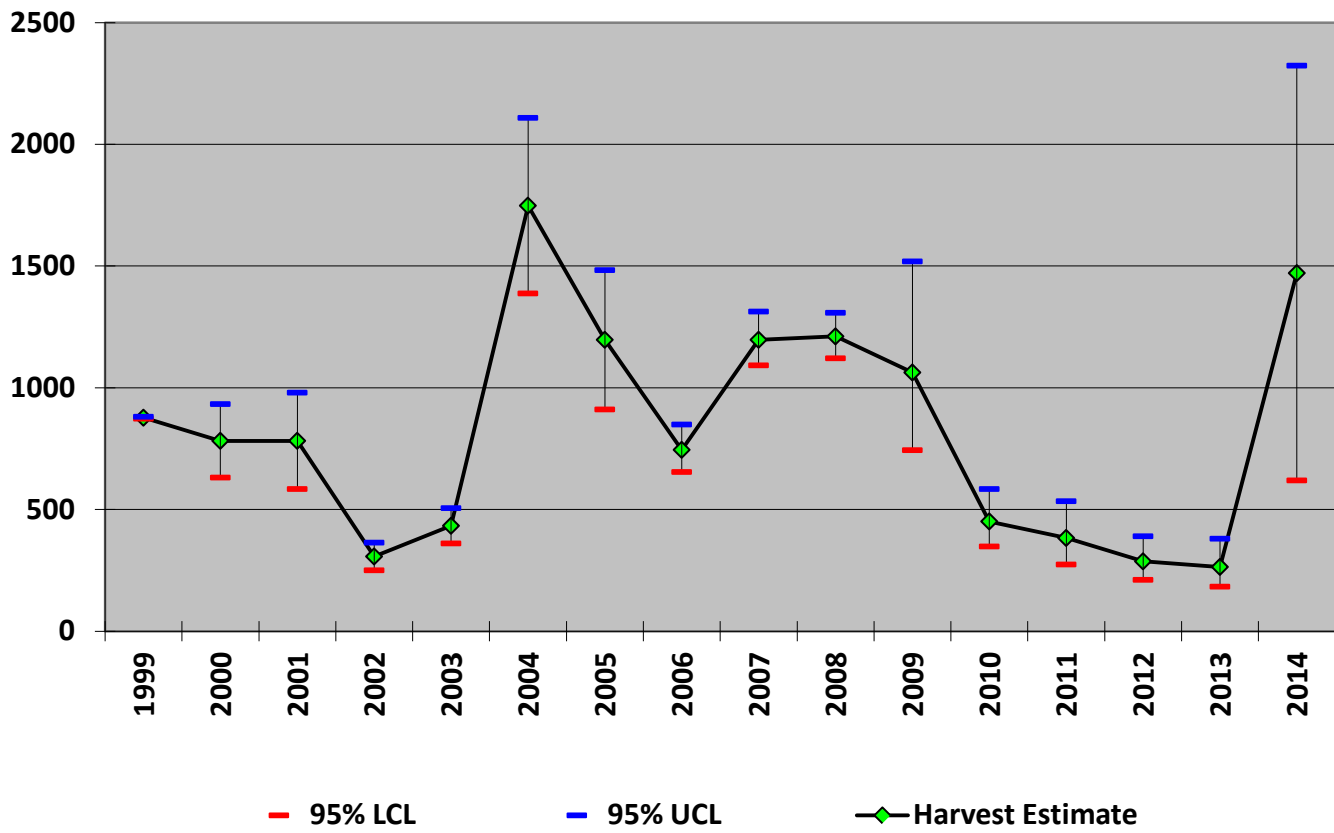
Strata	Hunters	SE(hunters)	LCI Hunters	UCI Hunters	Days Hunted	SE (Days Hunted)	LCI Days	UCI Days	Harvest	SE(harvest)	LCI Harvest	UCI Harvest
(1) Not Likely	140	140	27	717	561	561	110	2868	280	280	55	1434
(2) Somewhat Likely	526	107	354	781	1441	362	887	2341	778	323	355	1701
(3) Very Likely	341	32	284	409	739	87	587	931	307	68	200	470
(4) Very Likely for >3 years	91	16	66	128	188	44	119	297	107	33	59	193
Total	1098	180	746	1451	2929	675	1606	4251	1471	435	619	2323

2014 Sage-grouse Harvest by County

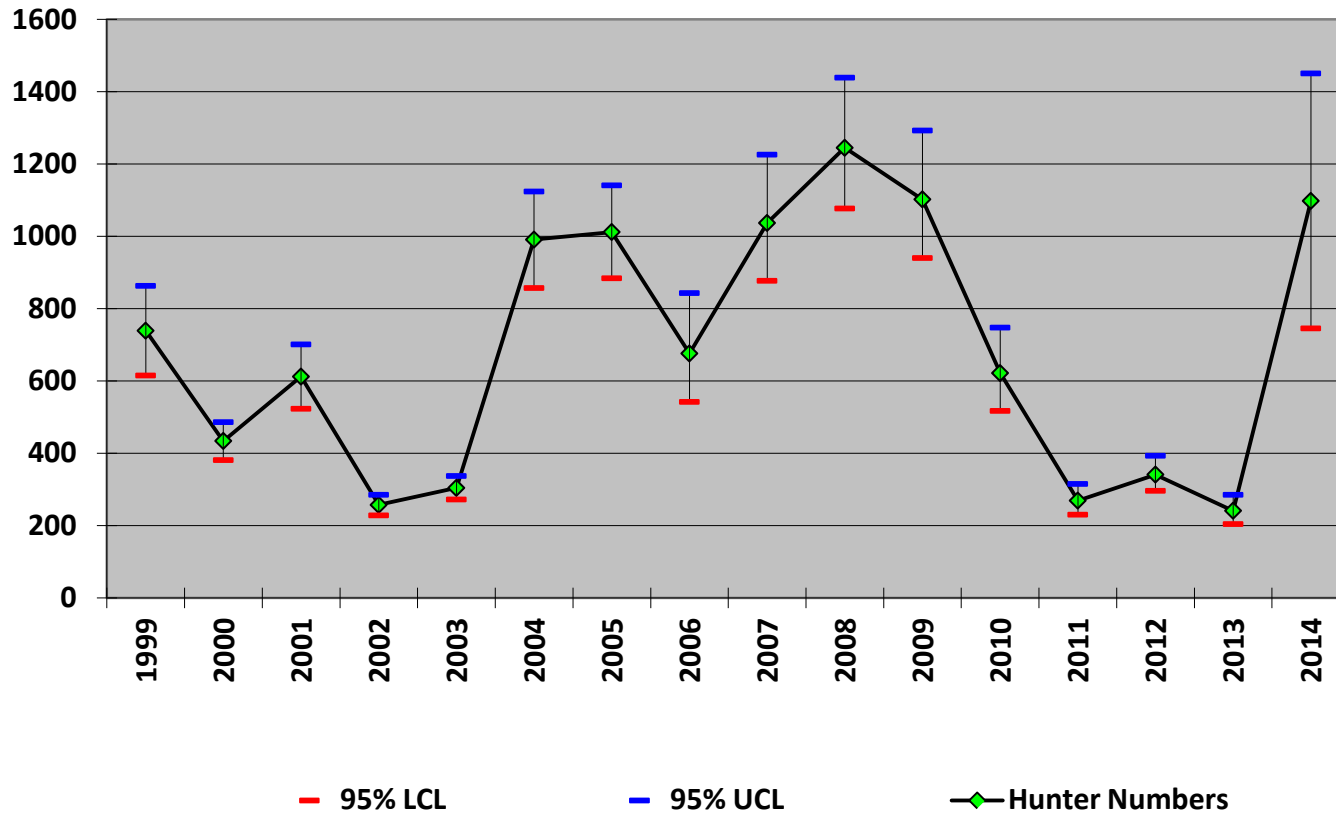
County*	Hunters	SE(hunters)	LCI Hunters	UCI Hunters	Days Hunted	SE (Days Hunted)	LCI Days	UCI Days	Harvest	SE(harvest)	LCI Harvest	UCI Harvest
Moffat	1018	205	689	1505	782	204	473	1293	603	268	262	1388
Summit	1045	713	311	3511	841	579	248	2853	314	281	70	1412
Rio Blanco	597	191	324	1102	461	178	222	957	231	146	74	720
Grand	321	105	171	600	409	194	170	989	174	124	49	612
Jackson	243	51	162	365	409	86	272	616	150	44	85	265

*Hunters could provide up to 3 counties when asked "where did you harvest sage grouse?"

Sage-grouse Harvest Estimates Colorado (1999-2014)



Sage-grouse Hunter Numbers Colorado (1999-2014)



Sage-grouse Hunters and Harvest
Colorado (1999-2014)

