2016 Sharp-tailed grouse Harvest Report

The 2016 sharp-tailed grouse report provides information on the estimated harvest of mountain sharp-tailed grouse. A stratified random sample of 3,500 sharp-tailed 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 $\geq$ 3 years

The post-season survey, conducted by telephone and email, contacted 1,502 (42.9% response rate) hunters. In total, 72 respondents, or 4.7%, reported they had hunted sharp-tailed grouse in 2016 and 35 (48.6%) reported harvesting sharp-tailed grouse. Statewide harvest was estimated at **660 $\pm$ 394 (267 – 1,053)**.

Comparison with 2015 survey results:

Harvest was lower than 2015 when an estimated 840 $\pm$ 482 (357 – 1,322) grouse were harvested. Hunter numbers in 2016, estimated **at 723 $\pm$ 284 (439 – 1008)** were slightly lower than 2015 when 825 $\pm$ 319 (506 – 1,145) reported hunting. Days hunted was unchanged 2,409 $\pm$ 1,529 (880 – 3,937) in 2016, from 2,495 $\pm$ 1,836 (631 – 4,359) in 2015.

Discussion

According to survey data, sharp-tailed grouse harvest increased by more than 80% between the 2014 and 2015 harvest estimates, while total hunter numbers and days hunted effectively doubled between years. This increase follows a similar increase from 2013 to 2014. While these increases in harvest estimate, hunter number and days hunted do not follow recent trends (2010-13), they appear to be very similar to increases in harvest and hunter numbers during the 2003-2005 period. This trend of increasing harvest did not continue in 2016.

As part of this analysis, CPW calculated an estimate of average birds harvested per hunter from 1999-2015. In 2016, hunters averaged 0.91 birds per hunter, suggesting that average hunting success was lower than the long term average of 1.6 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 sharp-tailed 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 2015, Colorado Parks and Wildlife attempted to reduce erroneous harvest location responses by allowing answers that correspond to mountain sharp-tailed grouse occurrence and where legal hunting seasons occur. All other location responses – for instance if a hunter said he hunted sharp-tailed grouse in Yuma County, were cached into an "Unknown" category, and eliminated from the data set.

Summary tables provide estimates of hunter numbers, days in the field and sharp-tailed grouse harvest state and by county. Estimates are followed by the standard error of the estimate, and

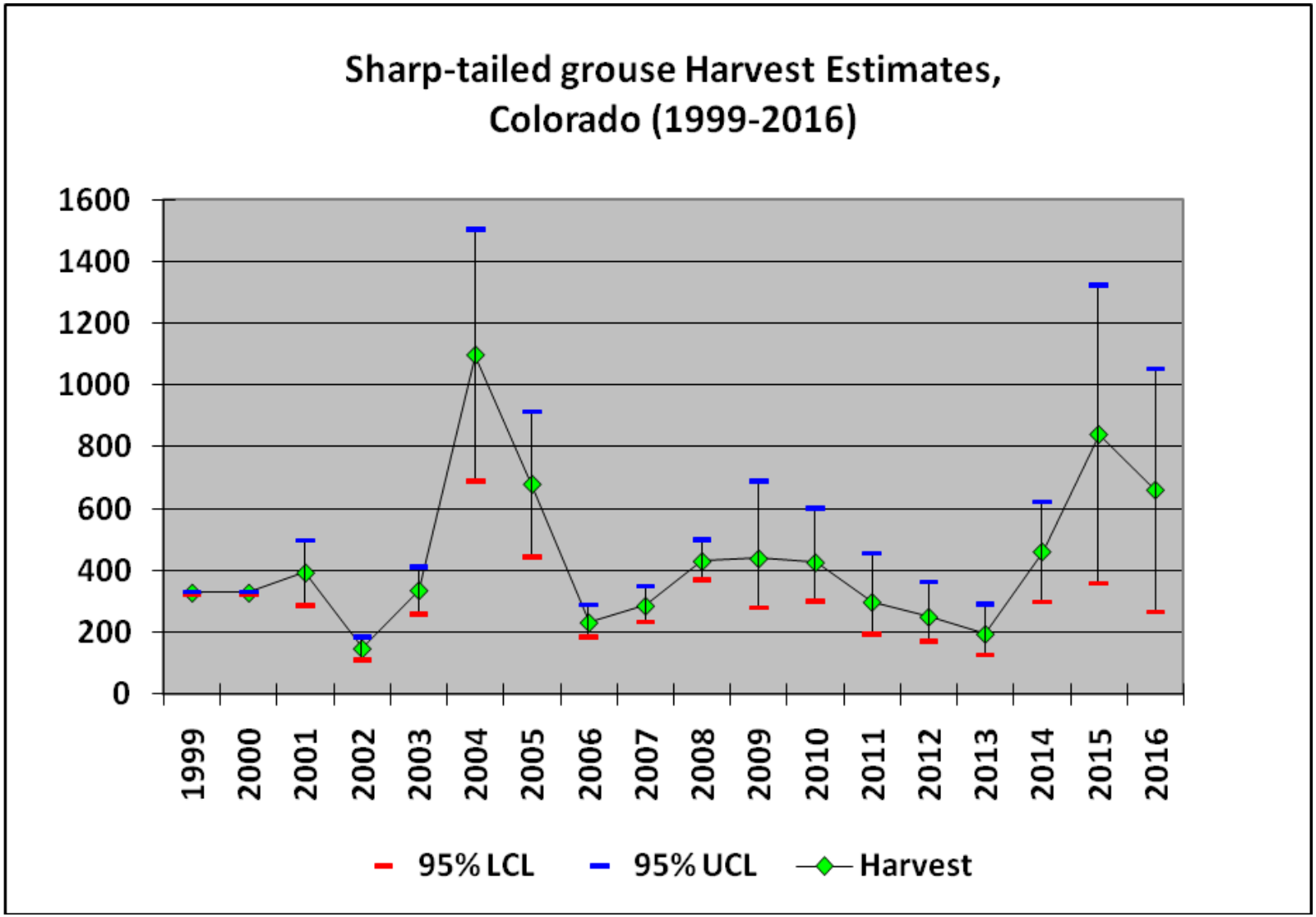
95% upper (UCI) and lower (LCI) confidence intervals around the estimate.

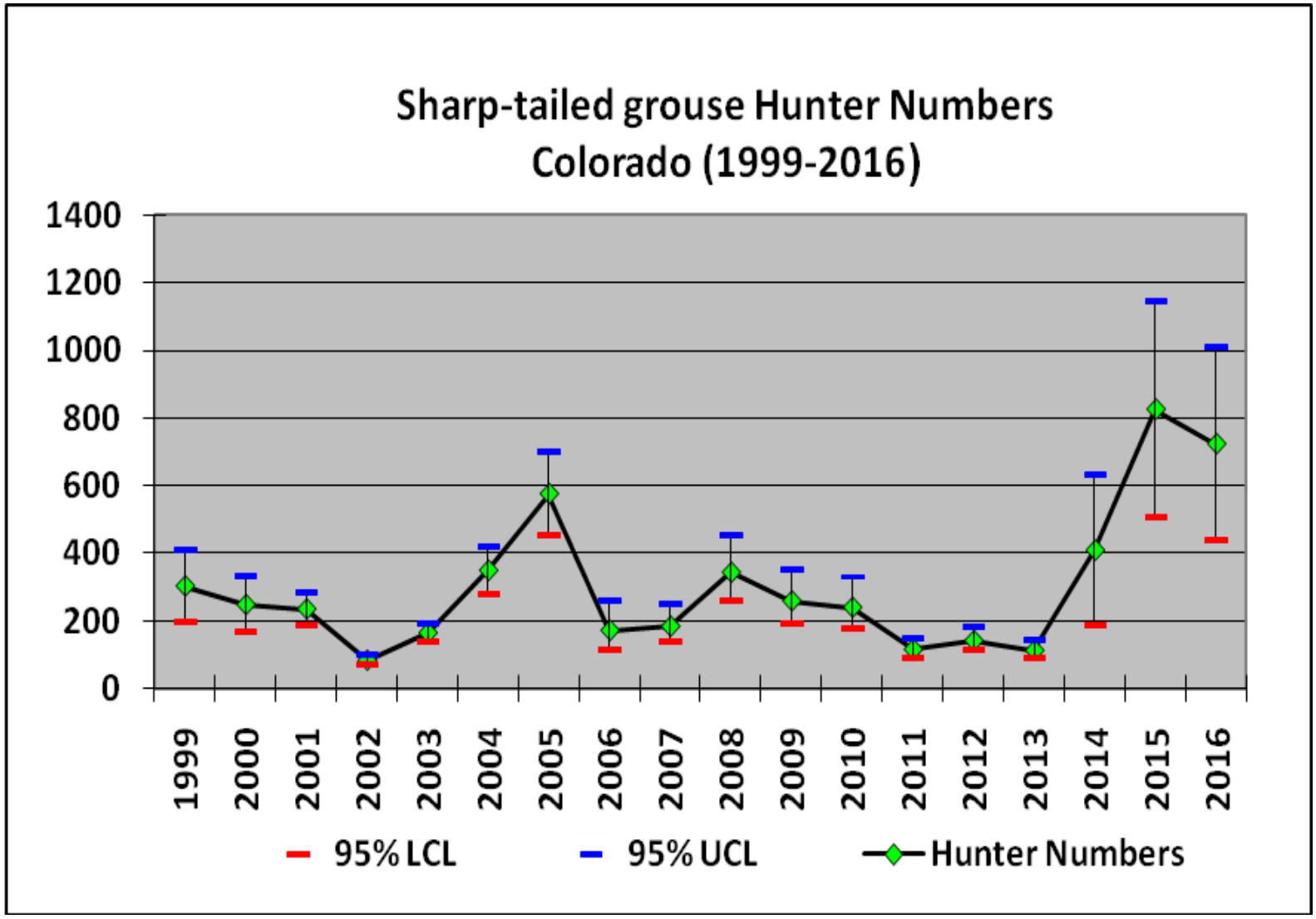
2016 Sharp-tailed grouse harvest, by strata

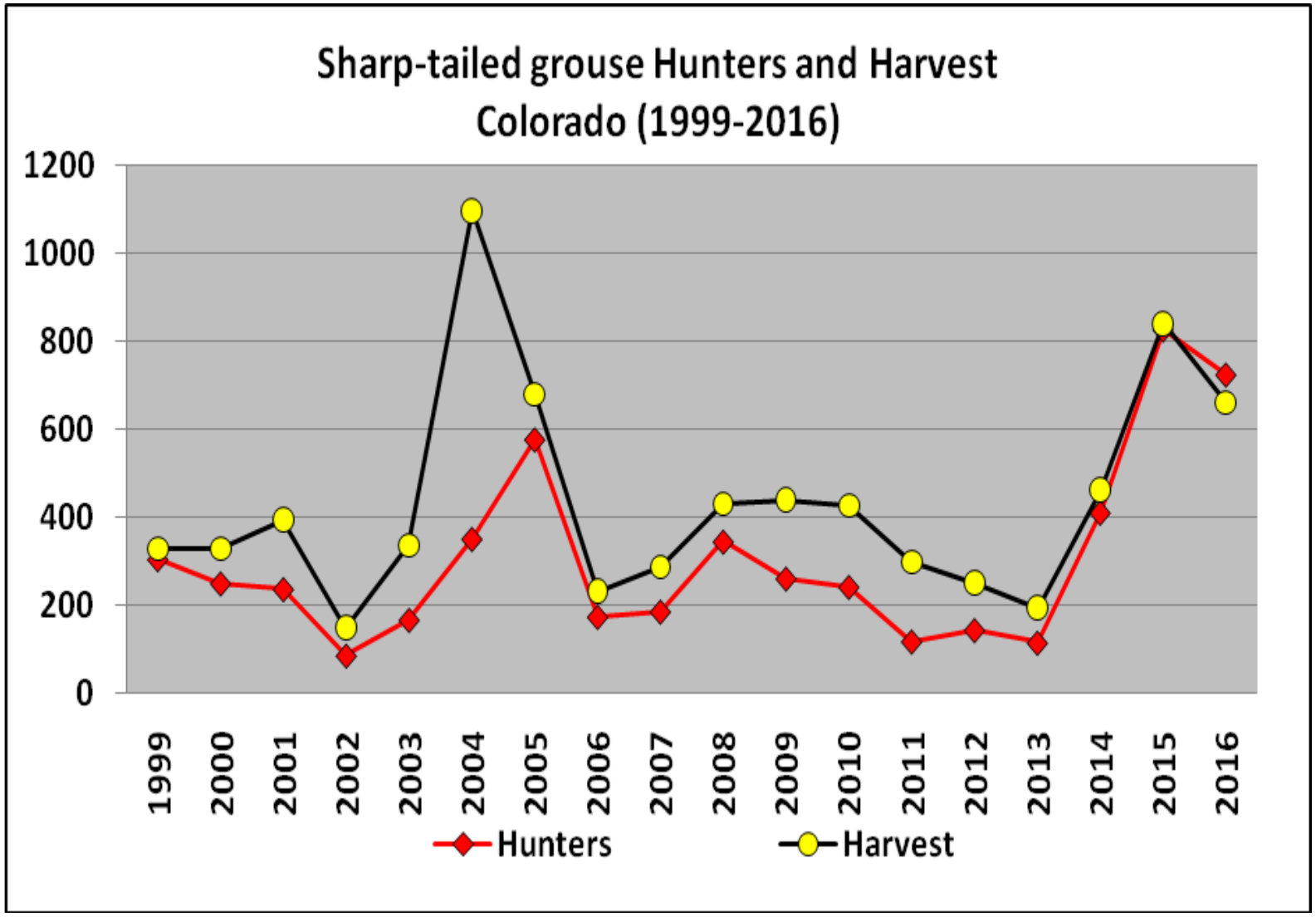
Strata	Hunters	SE (Hunters)	LCL (Hunters)	UCL (Hunters)	Days Hunted	SE (Days Hunted)	LCL (Days Hunted)	UCL (Days Hunted)	Harvest	SE (Harvest)	LCL (Harvest)	UCL (Harvest)
Not Likely	273	96	140	533	1262	725	443	3594	171	141	42	699
Somewhat Likely	261	98	129	531	560	237	253	1242	149	91	50	450
Very Likely	140	47	73	267	350	149	157	777	87	72	21	358
Very Likely for >3 years	49	9	34	71	237	65	140	404	253	84	134	476
Total	**723**	**145**	**439**	**1008**	**2409**	**780**	**880**	**3937**	**660**	**201**	**267**	**1053**

2016 Sharp-tailed grouse harvest, by county

County	Hunters	SE (Hunters)	LCL (Hunters)	UCL (Hunters)	Days Hunted	SE (Days Hunted)	LCL (Days Hunted)	UCL (Days Hunted)	Harvest	SE (Harvest)	LCL (Harvest)	UCL (Harvest)
Routt	994	274	585	1689	1530	726	632	3702	462	177	224	955
Moffat	95	56	33	275	95	56	33	275	118	84	34	412
Rio Blanco	217	122	78	607	295	167	105	828	62	45	17	221
Unknown	835	326	399	1746	489	227	206	1163	17	17	3	89
Total	**723**	**145**	**439**	**1008**	**2409**	**780**	**880**	**3937**	**660**	**201**	**267**	**1053**


Sharp-tailed grouse Harvest Estimates,
Colorado (1999-2016)
1600
1400
1200
1000
800
600
400
200
0
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
95% LCL
95% UCL
Harvest


Sharp-tailed grouse Hunter Numbers
Colorado (1999-2016)
1400
1200
1000
800
600
400
200
0
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
95% LCL
95% UCL
Hunter Numbers


Sharp-tailed grouse Hunters and Harvest
Colorado (1999-2016)
1200
1000
800
600
400
200
0
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
Hunters
Harvest