NEVADA
CHUKAR HUNTING FORECAST
2009-10 SEASON

How NDOW Surveys Chukar

The Nevada Department of Wildlife historically relied on late summer brood surveys conducted by foot or vehicle to estimate production from year to year. However, these surveys did not provide a reasonable estimate of the overall number of birds that would be available to hunters in the fall. In 1975, biologists began to experiment with chukar survey techniques using a helicopter. Department biologists noted that they were readily able to observe chukar while on big game surveys and felt that using a helicopter might be an efficient way to determine relative chukar population densities.

Since the inaugural survey, the technique has undergone some slight modifications and a series of verification checks. Simple statistical analyses show that biologists usually observe about one-third of a population in any given survey plot. Additionally, the reliability of a count is estimated to be about 70%. This means that if a biologist counts 100 birds per square mile in a study area, the actual number of birds would likely be between 210 and 390 birds, 95% of the time.

Surveys conducted during 2009 were again made possible through funding provided by the Nevada Chukar Foundation (NCF). NCF and other sportsmen's groups have been an integral part of establishing water developments, implementing habitat improvements and assisting with survey efforts for many upland game species. This year's surveys were conducted using El Aero Services and their Bell Jet Ranger helicopter. During the survey, the helicopter makes a series of passes between 25-100 feet above the ground at a speed of 35 to 45 miles per hour. Biologists seated in the front and back of the aircraft count chukar as they flush in front of and to the side of the helicopter. After their first flight, birds are reluctant to take wing again.

Chukars are surveyed on a series of 13 study plots in Elko, Humboldt, Pershing, Lander and Washoe Counties. Many of these study plots have been in place since 1986. This year's surveys were the second consecutive effort to reinstitute these surveys since 2001. The study plots include both water courses and upland areas to give a more accurate estimate of density. These study plots are not "hotspots," but rather representative segments of chukar habitat in a given geographic area.

Please consider the following when interpreting the data provided below: 1) the number of birds observed in a particular study plot is not directly comparable to the number of birds observed in another plot as some areas seem to have extremely high local densities while other areas show much lower densities depending on habitat conditions and any landscape changes (e.g. wildfire), 2) weather conditions can alter bird behavior and detection (i.e., in very hot and dry conditions, birds may be reluctant to leave the confines of a riparian area or shade and some may simply run or take cover rather than flush). Look for annual changes in individual study plots and compare those numbers to your own field experience in that general area.

2009 Survey Results

Surveys were conducted on all 13 long-term study plots from August 17th through 19th, 2009 and survey conditions in terms of weather were good across all transects. This year, record low numbers of birds were recorded on only one transect (Sheep Creek) while record highs were observed on two transects (Pine Forest and Izzenhood). Below average numbers of birds were observed on four transects including the Jacksons, Argenta, Rock Creek and Sheep Creek transects; however, the Jacksons and Argenta transects showed marked improvements over 2008. Rock Creek and Sheep Creek continue to show reduced numbers of birds largely due to habitat conditions that have been negatively impacted by multiple wildfires as well as heavy livestock utilization, especially around riparian areas and spring sources. On a positive note, above average numbers of birds were observed on eight transects with notable improvements on the Double H and Lava Bed transects from last year. Average numbers of birds were observed on the Granite transect. A high proportion of young birds were observed across most study plots. Survey results show much improved densities of chukar in Humboldt County with mixed results in Pershing and Lander/Elko Counties. Although observed numbers of birds appear down in Washoe County, the very hot and dry survey conditions could have altered the sample as a number of birds were observed running on the ground reluctant to leave the shade and water availability near riparian areas. In central and southern Nevada, brood surveys conducted from the ground as well as general observations indicate good production levels which should lead to fair to good hunting in this region of the state.

2009-10 CHUKAR HUNTING

When forecasting the 2009-10 chukar season, one must consider almost the entire year of events beginning with the fall of 2008. During this period, only mild precipitation was received that led to moderate "green up" at best in most areas. Fall "green up" is necessary to improve body condition and deal with the onset of cold temperatures and winter snow. Storms in late December brought much needed snowpack to most of northern Nevada, but relatively few storms occurred through the end of February. In early March of 2009, storms again brought snow and helped elevate a much depleted snowpack throughout the heart of chukar country, but this was followed by another dry period that concerned upland game biologists. Then, beginning in May and lasting through June, a generous moisture pattern provided most of the state with record or near record precipitation that improved the shrub and herbaceous plant life in the uplands.

The late spring rains came with mild temperatures that were ultimately conducive to production. Native bunchgrasses and forbs responded well to the ample moisture and provided birds with incredible food resources and nesting cover. Oftentimes, this plant growth also produces diverse and increased insect populations important to newborn chicks. The series of events that began in May and ultimately led to improved habitat conditions across the state are responsible for production of upland game birds not seen in the last three years.

Wildfires have not adversely impacted additional chukar habitats to date in 2009. However, many traditional chukar hunting areas are still feeling the effects of almost a decade of the worst fire events ever to occur in Nevada. During the period from 1999-2007, approximately 6 million acres of various habitat types burned in Nevada resulting in the establishment of cheatgrass and other invasive non-native weed species across the low to mid-elevations. This has been detrimental to many chukar populations because of the lack of native shrubs that are important for cover, nesting and forage purposes. Many areas of northern Lander, Eureka and western Elko Counties experienced extensive fires during this time frame with some fires re-burning habitat. These areas are not likely to be productive for chukar for many years.

The 2009-10 chukar hunting season is expected to be good for most of Nevada with some areas providing excellent hunting. This season will be better than the last two and will provide sportsman with ample numbers of young birds. Coveys comprised mostly of young birds will allow the hunter to approach within shotgun range for at least the first half of the season. Hunters across the state should enjoy good success early if conditions remain dry through October. As the season progresses, hunters will still have to spend a fair amount of time on foot pursuing the species. Look for great hunting in northwestern Humboldt County (Pine Forest and Black Rock Ranges) and portions of Washoe and Pershing Counties. Expect good hunting in most of Lander, northern Eureka and western Elko Counties. Additionally, some areas in southern Nevada should have fair to good numbers of birds as a result of improved production, which should provide sportsmen with fair to good hunting in 2009.

Chukar Helicopter Survey Study Plots

Birds Observed per Square Mile

Year	Double H	Santa Rosa	Pine Forest	Jacksons	Sonoma	Lava Beds	Selenite	Buffalo	Granites	Argenta	Izzenhood	Rock Creek	Sheep Creek	Overall Average
86	28	30	68		25	39	18	43	92	23		49		42
87	53	54	59	101	24	37	22	40	37	49		74		50
88	85	23	83	123	46	56	32	40	21	61		51		56
89	61	63	82	143	63	43	36	57	31	95		127		73
90	62	76	57	168	64	47	8	35	17	69		115		65
91	23	51	59	134	3	26	7	46	23	33		56		42
92	26	40	90	76	2	14	7	41	41	25		36		36
93	6	6	51	42	7	16	6	4	0	20	23	27	17	17
94	21	13	80	66	18	37	11	22	6	20	23	86	28	33
95	32	17	41	55	19	57	11	23	9	62	16	68	29	34
96	18	20	61	54	34	52	5	62	32	26	15	97	18	38
97	32	11		109						26	11	54	42	41
98	18	45	44	140	37	61	11	31	53	46	13	39	58	46
99	77	102	59	258	125	125	25	67	51	48	6	74	112	87
2000	39	59	81	156	49	44	17	46	41	37	11	92	53	56
01	81	85	130	109	31	41	31	32	100	35	23	56	58	62
08	32	61	61	15	112	60	33	70	49	9	25	39	3	44
09	**49**	**41**	**195**	**82**	**104**	**70**	**21**	**58**	**35**	**28**	**32**	**21**	**7**	**57**
Min	6	3	40	15	2	14	5	4	0	9	6	21	3	9
Max	105 (1980)	102	195	258	125	125	36	70	100	95	32	127	112	87
Avg	41	37	75	108	45	49	18	42	35	40	18	65	39	47