

2010-11 NEVADA CHUKAR HUNTING FORECAST



How NDOW Surveys Chukar

The Nevada Department of Wildlife (NDOW) historically relied on late summer brood surveys conducted by foot or vehicle to estimate production from year to year. These surveys did not provide a reasonable estimate of the overall number of birds that would be available to hunters in the fall. To provide better information to the chukar enthusiast, biologists began to experiment with chukar survey techniques using a helicopter in 1975. 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 1/3 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.

For the third consecutive year, the Nevada Chukar Foundation (NCF) provided funding for conducting these surveys through contracted helicopter services. NCF and other sportsmen's groups continue to be an integral part of establishing water developments, implementing habitat improvement projects and assisting with survey efforts for many of Nevada's upland game species.

Chukars are surveyed on a series of 13 fixed study plots spread across northern Nevada. Many of these study plots have been in place since 1986. 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. 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. Care is taken to avoid "double counting" birds during the survey.

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 during the survey 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.

2010 Survey Results

NDOW biologists conducted surveys on all 13 long-term study plots from August 16th through 18th, 2010. Weather conditions were considered good across most transects with the exception of the Sonoma Range where gusty afternoon winds were experienced. Northwestern Nevada study plots including the Santa Rosa, Pine Forest and Double H were well above their respective long-term averages with the exception of the Jackson Mountains transect (-47%). Two north-central Nevada (Argenta and Izzenhood) study plots were at or above their long term averages; however, both the Rock Creek and Sheep Creek study plots continue to be below their respective long-term averages, but are showing improvement and are the highest densities recorded since 2001. Habitat conditions in nearly all of Lander and Elko County study plots have been negatively affected by wildfires, and in some areas, heavy livestock utilization has also degraded habitat conditions, especially around riparian areas and spring sources. Pershing County study plots (Sonoma, Lava Beds, Selenite) continue to be at or above long-term averages although two out of three density estimates were down approximately 35% from last year's survey. Numbers of birds and density estimates showed improvement in western Nevada (Washoe County) study plots with the Buffalo Hills up 31% from last year's count and the Granite site up 89%. However, the Granite Study plot was partially burned by a wildfire that took place in July of 2010 and could have concentrated birds into unburned habitats and water sources.

2010-11 CHUKAR HUNTING

To adequately forecast the 2010-11 chukar hunting season, one must consider the entire annual life history cycle from breeding and nest initiation, nest success, recruitment and overwinter survival. 2009 production was much improved over the previous two years, allowing base populations to partially recover from lows experienced in 2007. Conditions during the late fall and early winter were generally favorable for over-winter survival of chukar with decent "green-up" available and mild conditions. However, the late winter and spring of 2009-2010 provided some rather abnormal conditions in terms of moisture patterns, temperatures and wind events. For the most part, northern Nevada saw winter-like conditions persist into early June. These conditions likely took a toll on early nesters, as well as hatchlings. However, the much needed moisture received during April and May (117-127% of average for both months in the lower Humboldt River Basin and Northern Great Basin) benefitted later nesters and provided necessary resources to re-nest. This has allowed chukar to achieve average production (4-5 chicks/adult), with many areas showing above average production. Overall, ground and aerial surveys confirm that production is mixed, even within the same mountain range. Some canyons will present coveys with average to above average production while others in the same mountain range may have several adults with very few young birds.

