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Survey Time: Evaluating the Past and Peering into the Future

by David Hewitt and Randy DeYoung

Summer is winding down and hunting season is coming on fast. It is time to blow the dust off the trail cameras, set up the spotlight rig, or check the calendar again for your helicopter survey reservation (if you haven't booked a survey date yet, you may be looking at doing a post-season survey, whether you planned to do one or not). These surveys are the first real chance to interact closely with your deer herd since last hunting season. Data will soon be flowing into your management system so you can see how the summer production season treated you.

By all accounts, this summer was great. Early spring rains pushed up cool season forbs, which deer relish. The rains continued into early summer ensuring does give birth to healthy fawns. Although vegetation began drying out during mid-summer, late summer rains maintained the momentum established this spring.

The incoming data from autumn deer counts means that it is time again to remind ourselves about the nature of those survey numbers that, on the surface, may appear concrete and definitive. In the [January 2010 e-newsletter](#) Dr. Charles DeYoung explained that both camera and helicopter surveys undercount deer, but that properly conducted camera census provides good data on the number of bucks (and photos of each buck as a bonus), whereas helicopter surveys provide better sex and fawn:doe ratios. Both techniques undercount fawns.

This last statement "Both techniques undercount fawns" should raise red flags. Fawns are necessary to the future of a deer population, especially a hunted population. The future of your herd, especially the number of mature bucks in five to eight years, is influenced by fawn production this year. Thankfully, most survey techniques may not provide a good estimate of the absolute number of fawns, but they do provide a reasonable estimate of relative fawn production. Thus, you are likely to know that fawn production was better this year than last, even if you don't know how many fawns were produced in either year.

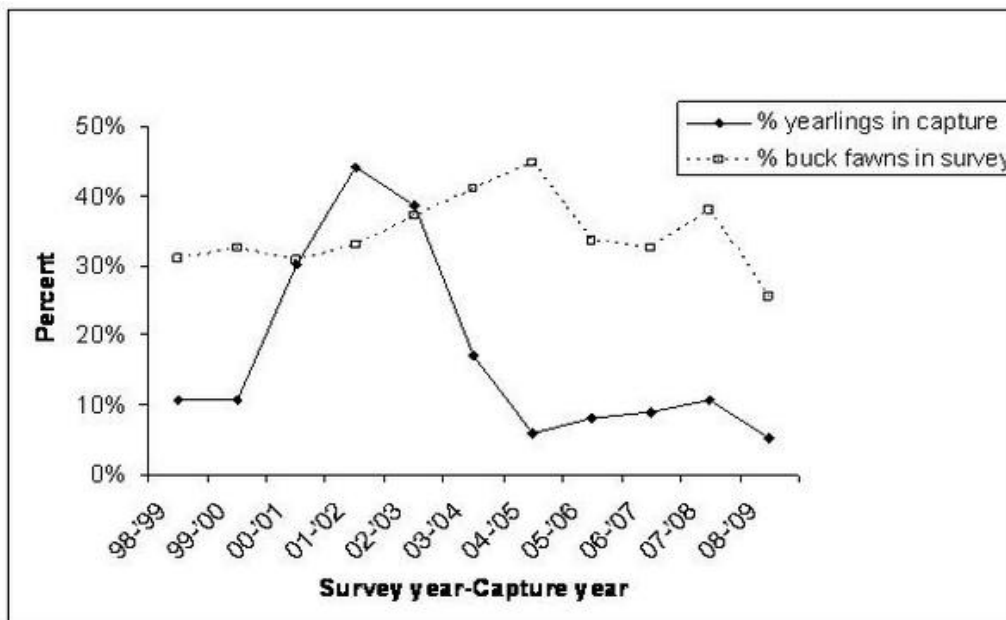
To further complicate understanding the future of your deer herd, Dr. DeYoung explored the issue of fawn survival in the Spring 2008 issue of South Texas Wildlife. He explained that fawn production one year is not always a good predictor of the number of yearling bucks the following year. The graph shows the proportion of bucks seen during a helicopter survey on a lease near

Laredo that were buck fawns (assuming 1/2 of fawns are buck fawns) and the proportion of bucks caught the following year that were yearling bucks. During most years the proportion of yearling bucks was low, but the 2000, 2001, and 2002 fawn cohorts resulted in a large proportion of yearling bucks the following years.

The variable relationship between buck fawns and yearling bucks the following year suggests the assumption of many managers, that fawns alive in October will be recruited into the population, is false. CKWRI research suggests survival of fawns during winter may vary from 70% to less than 50%. Such relationships only became apparent after many years of surveying deer herds and capturing bucks at random. Low fawn survival was never expected in southern Texas, where, ironically, many people come to escape bitter winters further north!

Winter may be tough on adult deer as well as fawns. As explained in the [March 2010 e-Newsletter](#), late-season buck mortality was unusually high during the 2009-2010 winter because bucks entered the rut in poor condition. Autumn rains improved forage quality, but apparently too late to make a difference in buck condition and mortality.

Late-season fawn deaths appear to be a substantial portion of the fawn crop in some years, yet are nearly invisible to a manager if coyotes and other scavengers make quick work of the carcass. Weaned fawns need a high-quality diet and have few fat reserves and thus could be susceptible to poor range conditions or weather during winter. Several ongoing studies at CKWRI are dedicated to discovering overwinter fawn mortality rates and potential causes of mortality. Once we recognize how many fawns are dying during winter and the causes of death, some of the problem might be mitigated through management, such as providing supplemental nutrition in a way that fawns could benefit. Stay tuned as we investigate this cryptic but important aspect of deer survival.



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