

Temporal Distribution of Buck Breeding Success: How Do Young Bucks Compete?

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A small number of dominant bucks were long thought to do most or all of the breeding in age-structured populations. Surprisingly, recent studies are finding that more bucks are breeding than previously realized. Although mature bucks (3.5 years and older) are most successful on average, young (1.5 and 2.5 year old) bucks collectively sire about 30% of fawns produced, even in populations containing a large proportion of mature bucks. The finding that some young bucks are able to mate raises some interesting questions about buck behavior. For instance, what circumstances allow young bucks to sire fawns? Young bucks could be successful at the end of the rut when most mature bucks may be exhausted from breeding activities. Alternatively, young bucks may be successful during peak rut when many does are in estrous, which is a period that allows more opportunities for all bucks. Our long-term study of breeding success at the King Ranch is providing insight into understanding how young bucks can be successful breeders.

We are using genetic parentage methods and tissue samples from does and embryos with known conception dates to determine if young bucks are successful during early, mid, or late rut. Our preliminary data indicate that young bucks are most likely to be successful breeders during peak rut. Additional years of data collection will provide a clearer picture of buck breeding behavior.

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