

Reproductive Characteristics of an Exploited Wolf Population

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In most wolf packs a single reproductively dominant female produces pups. However, examination of reproductive tracts collected from heavily hunted and trapped wolf populations in Alaska suggested higher pregnancy rates occurred in exploited populations. To assess the role of exploitation in stimulating high pregnancy rates and to estimate the contribution of secondary females to net productivity we captured, radio marked and closely monitored female wolves from an exploited wolf population in interior Alaska. We darted wolves from a helicopter, and performed 68 ultrasound scans for pregnancy over a 4-year period (1996-1999). Ninety four percent of primary (i.e. alpha) females (n=31) were pregnant. Annual pregnancy among secondary females ranged from 40%-80% and was highest following intensive trapping. An estimated 61% of secondary female pregnancies contributed pups to summer wolf populations. Nine of 36 annual wolf packs contained more than one pregnant female; in each of 2 packs at least 4 females were pregnant. At least 5 of the 9 multiple pregnancy packs produced surviving, multiple litters. Overall, estimated pup survival among 18 *in utero* litters of primary females averaged 60% to autumn, but survival varied with pack social structure. In utero through early autumn pup survival appeared to be lower in pairs with no previous offspring than in larger packs with offspring from previous years (0.48 vs. 0.65, $p=0.13$). Exploitation contributed to initial high pregnancy rates and multiple littering, but some packs produced multiple litters by reproductively co-dominant females in the absence of exploitation.

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