



**An Assessment of Puku (*Kobus vardonii*) Populations in Kafue
National Park, Zambia Using Ground Transects
Other than the Road Network**

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ABSTRACT In the past, ground counts in Kafue National Park (KNP) were predominantly confined to the road network owing to the vastness of the Park. Though essential information was yielded, results could not be generalized for the entire area as the road network did not traverse all habitats. Thus, using Distance Sampling methods, an attempt was made in 2010 to obtain unbiased and precise estimates of puku population and structure. Puku was chosen, because it acted as an indicator species for the SEED Programme and secondly its distribution during the dry season was predominantly confined to areas that were relatively accessible. The study area was defined using dry season distributions obtained from daily patrol data and from previous aerial survey reports. With an effort of 152.74km, 90 observations were yielded in groups ranging from 1–76 individuals with a modal size of one. This remained consistent with other studies that have shown that puku usually occur in small groups. Age ratios indicated that there were significantly more adults (81.7%) than sub-adults and juveniles together (18.3%), and may well be a concern to management. Sex ratios were more skewed towards the females, a norm for wild populations. Density estimates (0.433, CV = $\pm$ 24.7%) fell within the upper limit of the 2008 aerial count estimate (0.329/km²). Together, these results suggest that Distance Sampling using transects rather than the road network is a more useful and effective technique for estimating densities of puku and should in future be extended to incorporate other large mammals.