

This paper describes the frequency of Barking Owl *Ninox connivens* loud ('barking') calls over one dry and one wet season in 1981–82 at Kapalga within Kakadu National Park in the Northern Territory, Australia. A single recording site was located on the fringe of the treeless seasonally inundated black soil floodplain of the South Alligator River where prey are common, especially Dusky Rats *Rattus colletti*. Up to three pairs of Barking Owls were recorded calling in bouts throughout the year but they called more frequently both hourly and nightly (mean 2 127 loud calls/night) in dry season months (April–December) when they were probably breeding, than in the peak monsoon season months (January–March, mean 212 loud calls/night). Barking Owls are relatively more common and more widely distributed in tropical northern Australia than in temperate eastern and southern Australia where populations are localised, uncommon to rare and declining mainly due to the decline and fragmentation of their habitat. It is therefore vital to leave suitable habitats in the Northern Territory and elsewhere in the Top End of Australia to preserve current populations of Barking Owls and their prey.