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Quokkas In The Northern Jarrah Forest: Recovery Of Populations Over A Decade

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Introduction. The quokka is a medium-sized macropod endemic to southwest WA and two islands: Rottnest and Bald. Quokkas were once 'commonly observed' in swamps, although few surveys were conducted to establish historical presence. Quokkas suffered a major decline in the 1930s; by the 1950s, the quokka was thought to be extinct on the mainland.

Problem Statement. Post-fox control monitoring at eight sites in the northern jarrah forest (1998-2000; Hayward and colleagues) identified small, fragmented populations, but no detectable response to fox baiting. The aim of our research was to establish the current status of quokka populations at these sites (7 of the 8 sites).

Procedures/Data/Observations. Seasonal trapping was conducted during 2010-2011 (10 traps/site within 200m area of swamp). Due to higher trap success, this survey effort was less than the previous surveys (60+ traps/site within the entire swamp system). Sex ratios, age (adult, sub adult or juvenile) and breeding status were determined for each individual.

Results. Quokka populations have increased over the last decade: trap success of the present study (9.4 new individuals/100 trap nights; 85 individuals over 900 trap nights) was substantially higher than previously (0.3 new individuals/100 trap nights; 71 individuals over 21,287 trap nights). The sex ratio of males to females was near even (1.1:1.0). The reproductive potential of quokkas has increased over the past decade with most adult females (89% of 62 individuals) carrying pouch young or feeding a joey at foot year-round compared with 49% (of 47 individuals) previously.

Conclusions. Viable quokka populations were found in six of the seven sites surveyed, including two where quokkas had been pronounced 'locally extinct'. Unlike a number of other native WA mammal species restricted to predator-proof fenced areas, and contrary to predictions of further decline, northern jarrah forest quokka populations have increased over the past decade.