Listed as a threatened species in Western Australia, nationally and internationally, the western ringtail possum (Pseudocheirus occidentalis) is restricted to the south-west corner of Western Australia. Despite this, the current known geographic range of P. occidentalis is considerably different from, and more expansive than, published accounts from the 1990s. This most likely represents an increase in knowledge of the species’ distribution. Recognised threats to the species persistence include habitat loss, predation, inappropriate fire regimes and effects from climate change. The most immediate threat to persistence of P. occidentalis is habitat loss associated with rapid urban expansion in the greater Bunbury, Busselton and Albany areas and introduced predators more broadly. Attempts to mitigate the effects from habitat loss have historically focused on translocation which has met with some success. Low density populations have established at translocation release sites within Yalgorup National Park and dispersal of recruits has been confirmed from genetic analyses. Genetic studies have also revealed no evidence of historic or contemporary mixing of in situ (naturally occurring) populations separated by as little as 30 km and with no physical barriers to dispersal or movement. This raises immediate concerns for, and conservation interest in, several recently confirmed populations, including those at Dawesville and Binningup, where development and habitat clearing is proposed. The conservation significance of these populations, in terms of genetics and demographics, is not known.

A high level of P. occidentalis predation by feral cats (Felis catus) and the south-west carpet python (Morelia spilota imbricata) was detected in 2002 - 2004 at Leschenault Peninsula Conservation Park, the primary translocation release site. Recent PhD programs have quantified this high level of predation. Survivorship modelling identified some intrinsic and extrinsic proximate factors affecting the short and long-term susceptibility of translocated individuals to predation. Although no causal link has been confirmed, P. occidentalis survivorship was negatively associated with high numbers of the sympatric common brushtail possum (Trichosurus vulpecula hypoleucus) and negatively associated with high pre-translocation lymphocyte counts. Reference values and baseline information on the haematological and biochemical profiles have now been established for coastal populations.

Clearing of P. occidentalis habitat has continued and pre clearing surveys of population size continues to be based on ad hoc consultant derived estimates, despite availability of universally accepted quantitative techniques. Displaced animals are released in unsanctioned translocations at sites determined by wildlife carers. Commonwealth and State assessment processes are inconsistent, as are approval conditions. Untested mitigated measures have been adopted at some sites with minimal or no requirement to monitor the effectiveness of these measures.

Contrasting with this, collaboration between Main Roads WA, Satterley Property Group, Western Power, the Shire of Busselton, the Shire of Capel, UWA and DEC is experimentally trialling use of rope bridges as a measure of mitigating P. occidentalis mortality associated with roading and
development. The research is incorporating assessment of the value of rope bridges in establishing and maintaining gene flow.

The largest remaining inland population of *P. occidentalis* is located in jarrah forest of the Upper Warren region east of Manjimup. Abundance in the region was negatively related to logging, fire intensity, time since last burn, and the extent of fragmentation by agriculture. Clearing for agriculture has also been selectively biased toward the higher quality *P. occidentalis* habitat, thereby compounding the impact on the population. *P. occidentalis* was also positively related to fox control. Studies on the real-time impact of timber harvesting have demonstrated a significant reduction in survivorship, due principally increased vulnerability to predation, especially by cats, and a sustained population collapse to undetectable levels at a landscape scale in both logged and unlogged jarrah forest in the Greater Kingston area. Key diurnal shelter and habitat elements and their characteristics have also been identified,