

## 7.1 CONTEMPORARY POPULATION STRUCTURE

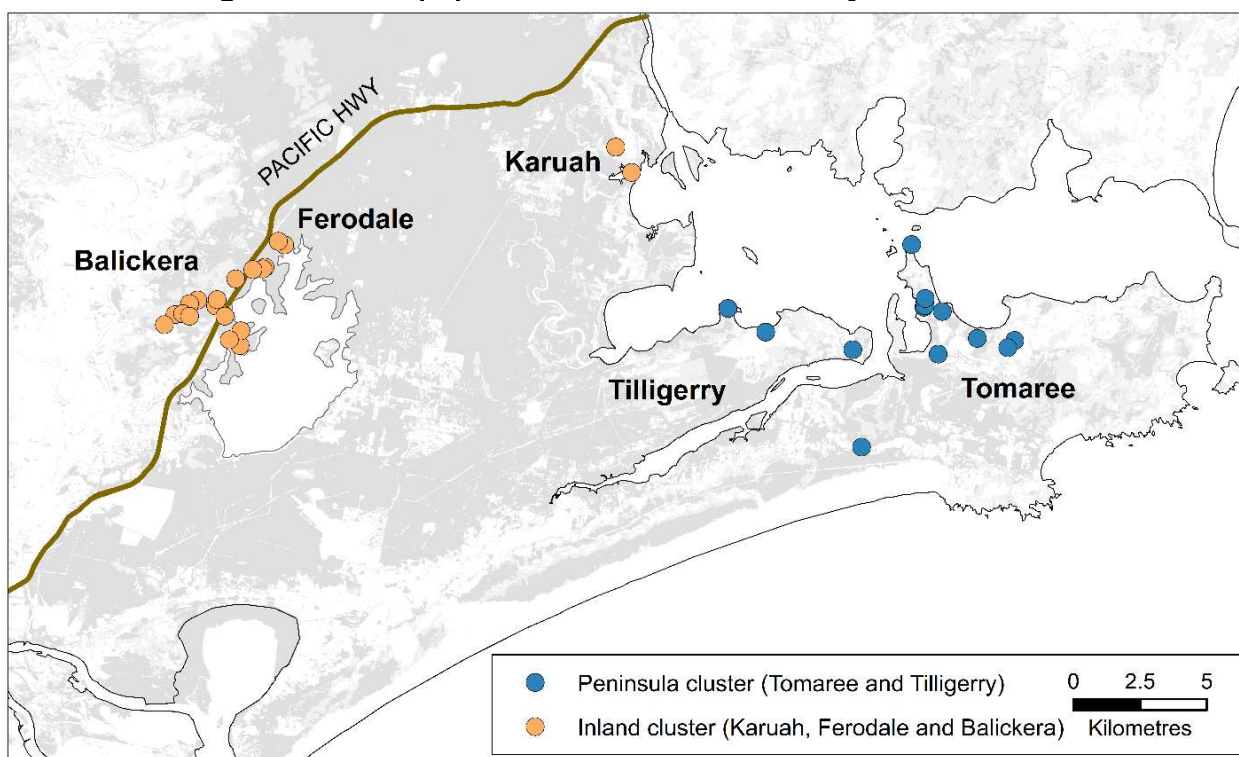
### 7.1.1 Broad population structure

*Two genetically distinct Koala clusters were identified across the Port Stephens region.*

Analysis of the current regional population structure was investigated using the STRUCTURE program. STRUCTURE indicated that there are two distinct genetic clusters of Koalas in the Port Stephens area, where Koalas on the peninsula (Tilligerry/Tomaree) were separated from inland Koalas (Balickera, Karuah and Ferodale).

See **Figure 4** for a spatial representation of the population structure results inferred by STRUCTURE.

**Figure 4: Broad population structure inferred by STRUCTURE**



Grey shading shows the predicted spatial distribution of Koala habitat using data obtained from the New South Wales Government Department of Planning, Industry and Environment (2019). Habitat suitability is estimated on a scale from 0 to 1, with higher values indicating a greater probability that habitat in a particular location is suitable for koalas. Two categories of Koala habitat suitability are shown on this map, 1) habitat suitability ranging from 0.75–1.0 (dark grey) and 2) habitat suitability ranging from 0.5–0.75. White regions indicate areas where the presence of habitat suitable for Koalas has a probability of less than 0.5.