Western Australia's rarest bird species headed for extinction

December 16 2015, by Lisa Morrison, Sciencenetwork Wa

The critically endangered western ground parrot will struggle to find refuge in the changing climate. Credit: Brent Barrett

One of the last known populations of WA's rarest bird species is tipped to disappear from a global biodiversity hotspot unless action is taken to

address climate change.

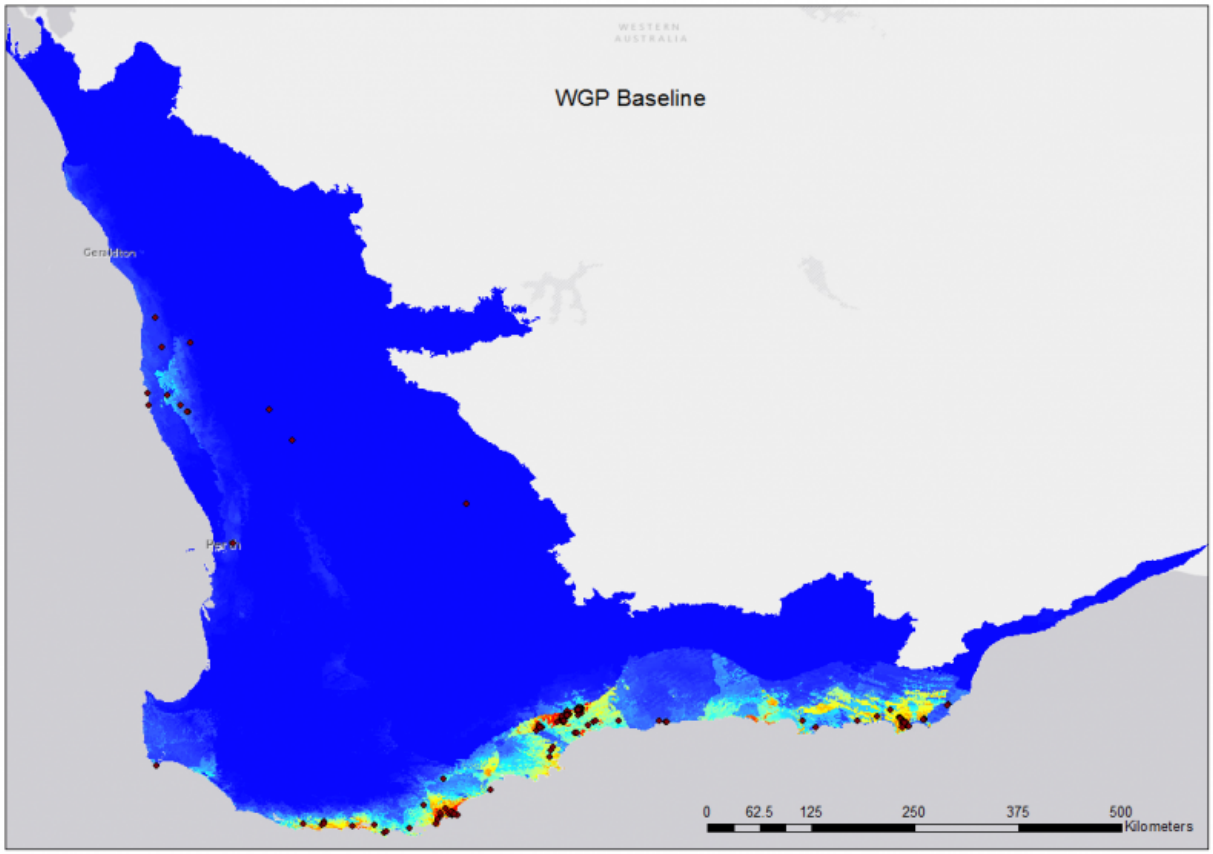
A species distribution model (SDM) for the critically endangered western ground parrot (Pzeoporus flaviventris) was developed in July by Edith Cowan University School of Natural Sciences postdoctoral research fellow Dr Shaun Molloy.

The aim was to determine if climate change could be a major contributor to the dramatic decline of the species, which has an estimated population of 110 birds at three sites, including Fitzgerald River National Park, 180kms northeast of Albany.

SDMs correlate the presence of a species with variables such as temperature and rainfall, to determine the species' baseline potential distribution.

By comparing the species' baseline model with predicted climate change scenarios, maps can be created indicating how the species' distribution is likely to change.

Current climate change modelling estimates that by the end of the 21st century, the birds Fitzgerald River National Park home's mean temperature will increase by 3-4 degrees Celsius and rainfall will decrease by up to 30 per cent if emission levels are not significantly reduced.



A heat scale showing high (red) to low (blue) baseline probability of western ground parrot population in the South Western Australian Floristic Region. Credit: Shaun Molloy

Dr Molloy's modelling shows the parrot's niche in Fitzgerald River National Park shifting east and west, which he says "could spell serious trouble" for the species.

"When climate change happens, species can respond in three ways – they can persist and adapt, they can migrate or they can die," he says.

"If the parrot can't find habitat, we are looking at a fairly serious extinction event."

The area's fragmented and fragile landscape is a barrier for migration.

"Where you have climate change in fragmented landscapes…finding that refuge is much more difficult," he says.

"For many species, movement between fragments is difficult, if not impossible."

Dr Molloy says climate change appears to be the "icing on the cake" for a species under threat from habitat loss, predators and fire.

"People can say it's only a 3-4 degree shift, but put that on top of an extreme heat weather event and you start seeing the real impact," he says.

"It sounds catastrophic and it is."

Dr Molloy says further research is required to refine the species distribution model and compare its predictions with fieldwork.

Dr Molloy presented his research at a climate change conference in Albany in November.

This article first appeared on ScienceNetwork Western Australia *a science news website based at Scitech.*

Provided by Science Network WA

Citation: Western Australia's rarest bird species headed for extinction (2015, December 16) retrieved 27 April 2024 from https://phys.org/news/2015-12-western-australia-rarest-bird-species.html