Juvenile survival of world's rarest parrot more than halves

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New research shows one of the world's rarest birds, the orange-bellied parrot, remains at severe risk of extinction despite decades of intensive conservation work in their Tasmanian breeding range.

Although conservation efforts have increased the breeding success of parrots in the wild, 80 percent of juveniles born in their sole breeding ground in Tasmania die on migration and over winter.

Researchers at The Australian National University used data collected by the Tasmanian Department of Primary Industries, Parks, Water and Environment to study survival of orange-bellied parrots over 22 years.

"Our results are very worrying," lead author Dr. Dejan Stojanovic said.

"We found that over time, survival of juvenile parrots has dropped from 51 percent in 1995 to only 20 percent in recent years."

Dr. Shannon Troy, study co-author and lead wildlife biologist for the DPIPWE Orange-bellied Parrot Tasmanian Program said: "Although more orange-bellied parrots are born into the wild as a result of recovery efforts in Tasmania, these benefits are reduced by threats during migration and winter that are unidentified and unaddressed."

There is uncertainty about what threats the parrots face during migration and winter.

It is suspected the arduous flight over the Bass Strait between Tasmania and the Australian mainland takes a severe toll on inexperienced juveniles on their first migration. This is exacerbated by the small population size reducing flock size. Survivors then face the challenge of finding suitable habitat in Victoria to endure winter.

"Migratory animals need protection from multiple different threats at different times and places," Dr. Stojanovic said.

"Unfortunately the main threats to this species are the most difficult to identify and fix, and our study shows that what's been done to date hasn't corrected the declining survival of juvenile orange-bellied parrots."

Orange-bellied parrots are critically endangered, which is the last step before extinction. In 2016, low juvenile survival rates resulted in only three wild females returning alive to the breeding grounds, representing the lowest point of a decades-long decline.

This has improved in recent years, with 23 returns including 13 females in 2019, but the population size remains perilously small.

Recently the Tasmanian Government invested in expanding their capacity to breed parrots in captivity by constructing a new breeding center near Hobart.

"Determining why birds are failing to survive

migration and winter is part of the solution to preventing extinction, which may be unavoidable over the long term if these issues cannot be addressed," Dr. Troy said.

"This study shows that new, targeted conservation efforts are needed to identify and address threats on migration and the mainland."

The worrying results of this study highlight the perilous state of Australia's threatened species.

"Australia has one of the worst extinction rates in the world, and our study shows that correcting decades of population decline of orange-bellied parrots is extremely difficult, and despite our best efforts, may not be successful," Dr. Stojanovic said.

"We hope our study encourages others to think holistically about the way that we deploy conservation efforts for migratory species, so that good work at one time and place isn't undone when animals migrate away."

Since the collection of data for this study, new orange-bellied parrot management approaches have been trialed on the Australian mainland.

The research has been published in *Emu: Austral Ornithology*.

More information: Dejan Stojanovic et at., Spatial bias in implementation of recovery actions has not improved survival of Orange-bellied Parrots Neophema chrysogaster. *Emu - Austral Ornithology* (2020). DOI: 10.1080/01584197.2020.1799411