



ASIAN SPECIES ACTION PARTNERSHIP

The document below gives an overview of the work of Friends of National Parks Foundation (FNPF) on Nusa Penida, Indonesia. The work carried out by FNPF was, in part, funded through the ASAP Species Rapid Action Fund.

Details of the elements funded by ASAP

Project date: September 2020 to February 2021

Organisation: Friends of National Parks Foundation

Project title: Bali Starling Nusa Penida wild population stabilisation and expansion

The project

FNPF sought emergency funding from ASAP's Rapid Action Fund to maintain and expand the existing nest box network. ASAP funding was to be used to pay the local staff to cover the activities of and donations from international volunteers until travel restrictions are eased. Over the course of the project, local staff planned to:

- Maintain the nest box network
- Grow the nest box network for the upcoming breeding season
- Act as a deterrent to poachers through their presence
- Continue to engage with schools and communities

The ASAP Species Rapid Action Fund is supported by:



A Blueprint for the Conservation of a Critically Endangered Starling: Community Science, Community Involvement

Background

The Bali Starling *Leucopsar rothschildi* represents a monotypic genus endemic to the island of Bali, Indonesia. The collapse of the Bali Starling populations has been well documented [1, 2] and capturing for the pet trade is the primary threatening process. It has brought the species to the verge of extinction. It was probably extinct in the wild in 2006 [3]. It is considered Critically Endangered by the International Union for Conservation of Nature (IUCN) since 1994 [4] and listed under CITES Appendix I.

The Asian Species Action Partnership (ASAP) Rapid Action Fund provides finance for conservation emergencies and unforeseen circumstances. Friends of National Parks Foundations applied for these funds, as its Bali Starling conservation work is funded by ecotourism, devastated by the COVID 19 pandemic. FNPF Bali Starling conservation work was a victim of its own success, with the 2020/21 breeding season approaching and insufficient nest boxes for the newly recruited young birds from the previous season. With insufficient nest boxes, the birds fight and harass one another around and even in the nest boxes. This disrupts the breeding attempts of established and young pairs. Faced with this dilemma, FNPF requested funds to purchase the materials to expand the existing nest box network and fund the local FNPF conservation and community liaison staff. The emergency funding was applied for, and the funds were received quickly. With the Rapid Action Fund, FNPF continued the Bali Conservation work unabated and expanded the nest box network before the breeding season. With community support, the expanded network is in place. Consequently, a subpopulation of Bali Starlings self-established a few kilometres from the main population, and the new population is accompanied with these new specifically design ASAP-funded nest boxes. Young birds have already fledged from some of these nest boxes.

There are currently only two wild populations of the species (although there are a handful of released birds elsewhere). One in Bali Barat National Park is maintained by a continual, undocumented number of aviary-bred released birds. The only wild breeding self-sustaining population is on Nusa Penida, east of the Bali mainland. As early as the mid-1980s as part of a five-year recovery plan (van Helvoort, unpublished, 1986, secondary citation Birdlife International 2001 [5]), Nusa Penida had potential as a release site to establish an artificial wild release population. Since 2004, the Friends of National Parks Foundation (FNPF) engaged with the local Nusa Penida peoples in preparation for the release of captive-bred Bali Starlings. FNPF is an Indonesian non-profit organisation working to protect wildlife, restore habitat, and improve the wellbeing of local communities. It is a grassroots, front-line conservation organisation to employ, educate, and improve the local communities' wellbeing (social and economic) in the vicinity of each project.

In 2006 and 2007, a total of 66 captive-bred Bali Starlings from Begawan Foundation collection were released on Nusa Penida. FNPF has managed the population since. The population has been stabilised and is increasing in number and distribution.

Bali Starling now occupies a specific, although increasing, area on Nusa Penida. Specifically, on Nusa Penida, the Bali Starling is tolerant of disturbed environments such as intensive gardens and urban infrastructure; typical deciduous secondary-growth closed-canopy emergent vegetation, intensive grazing grassland with isolated trees and tourist accommodation gardens, where it drinks from swimming pools and water bath arrangements. It has been observed to feeding in the canopy on

fruits, on the ground in short pastures and riding the backs of grazing cattle where they capture insects.

On Nusa Penida, the Bali Starling population is neither supplemented with the continual release of aviary-bred birds nor with feeding. However, the Bali Starling on Nusa Penida is conservation dependent in that conservation measures are required to maintain the species's presence in the wild. FNPF local staff, local peoples and international volunteers implement these conservation measures, with technical guidance from monthly management task sheets and annual management plans. The success of FNPF conservation measures on Nusa Penida could be used as a blueprint for the conservation of illegally poached hollow-dependent nesting bird species.

The Blueprint

The blueprint hierarchy can be summarised as follows:

- Overarching 5-year strategic plan
- Annual management plan
- Monthly task sheets
- Simple frequent monitoring
- Community engagement and involvement.

Yet, the process is implemented in the reverse order, initially from the bottom up. However, once the conservation of the species has been implemented, the process is circular as a continual improvement cycle.

The Nusa Penida Bali Starling blueprint

1. Community engagement and involvement

FNPF approach has been a grassroots community involvement campaign. FNPF spent two years before releasing captive birds in engaging and preparing the community for the releases. The community engagement campaign was and is diverse (promote conservation education at schools, provide education scholarships for high schools and universities, teach English in schools, train local farmers in organic techniques, maintain local culture with traditional Balinese dance classes and support village weavers to revive enterprise traditional ikat-style weaving) and critically, ongoing. Consequently, FNPF is known throughout the island, the local community can identify and recognise the Bali Starling, report (to FNPF) Bali Starling sightings throughout the island, and understand that poaching threatens the species. This long-term grassroots approach by FNPF has enabled the Bali Starling population to exist and breed in a nest box network secured by community support. All nest boxes are visible to the public, on public lands, within Hindu temple grounds, in tourist accommodation gardens and positioned only at ladder height to enable safe and frequent monitoring.

However, community protection and a nest box network will not save the species unless they are effective. Therefore a monitoring regime is required that counts birds, nest boxes and nest box availability and condition.

2. Simple frequent monitoring regime

FNPF established a 'simple frequent monitoring' regime, which is a point count monitoring that suits the skills of volunteers and the broader local community. The local community and volunteers implement the regime almost daily, yet the monitoring is scientifically rigorous and repeatable. The

'simple frequent monitoring' regime has allowed FNPF to quickly and easily identify if the population is increasing in number and distribution, but, critically, also to be able quickly to identify if the population is decreasing and whether emergency actions are required.

The simple frequent monitoring regime data, literature, community and FNPF staff consultation, and field observations, quickly identified the threatening processes to the species as:

- Lack of suitable nest box
- El Nino episodic climatic conditions
- Potential of poaching
- Low genetic diversity

3. Monthly task sheets

The simple frequent monitoring regime provided information on species ecology, being sedentary, strongly pair-bonded, with roaming flocks of juveniles during the dry season, nest box competition, breeding activity, how many there were and where they were. With the monitoring data and knowledge, monthly conservation tasks (directly to address the threatening processes) can be identified and implemented by locals, local staff and volunteers. These are simple tasks, such as GPS locate and label every nest box, clean inactive nest boxes, place new additional nest boxes when and where needed, engage the community and industry before the establishment of new nest boxes in their area. The task sheet frequency (monthly) allows FNPF to respond quickly to threats identified through the simple frequent monitoring regime and community concerns. It also provides a historical record of what has been done and coupled with the monitoring data, whether the actions were successful.

4. Annual management plan

Experts wrote an annual management plan after some knowledge of the species is gained. But departing from typical scholarly management plans, the Nusa Penida Bali Starling Management Plan is deliberately short (less than three pages), so locals, volunteers and FNPF staff are happy to read and understand it. It sets the achievable aims and objective for the year and how to address perceived threats.

The annual management plans are revised, with knowledge from the simple frequent monitoring regime and information from the local community and FNPF staff.

5. Overarching 5-year strategic plan

The strategic plan, again, is short and to the point. It aims to recover the species from Critically Endangered by providing the overall direction of the conservation actions. It states the need for annual management plans, monthly task sheets and simple frequent monitoring. It also provides an articulated conservation process to outside stakeholders such as grant sources and educational institutions. It also contains forward-thinking, over the horizon conservation needs, such as:

- specific research to address threats (low genetic diversity; impediments to breeding success, or to establishment of satellite populations),
- habitat carrying capacity,
- measuring social capital,
- predicted populations and distribution to delist the species from Critically Endangered, and
- funding avenues.

FNPF has funded the Nusa Penida Bali Starling conservation through a business model of sourcing funds through international volunteers' participation in conservation management of this Critically Endangered species. COVID 19 has stopped that funding source for the foreseeable future; however ASAP has provided much-appreciated emergency financial support. FNPF intends to reinvigorate its business model once international travel resumes and intends not to be grant dependent.

Javan and Bali Critically Endangered Starlings

The Nusa Penida Bali Starling blueprint can be implemented by NGOs elsewhere. It is not complicated or academic but locally driven and dynamic. It equates to a quick responsive, adaptive management strategy that changes to the species's needs and community concerns whilst maintaining the critical aims of recovering the species.

This approach has the potential to be used as blueprint to recover the four other Critically Endangered starlings endemic to Java and Bali, the Javan Pied Starling (*Gracupica jalla*), Black-winged Starling (*Acridotheres melanopterus*), Grey-backed Starling *A. tricolor* and Grey-rumped Starling *A. tricolor*. They all suffer from the same threatening processes, have similar conservation management needs and ecologies. None of these species is under effective field conservation management.

References

1. van Balen, S.B., et al., *Status and distribution of the endemic Bali starling Leucopsar rothschildi*. *Oryx*, 2000. **34**(3): 188-197.
2. Eaton, J.A., et al., *Trade-driven extinctions and near-extinctions of avian taxa in Sundaic Indonesia*. *Forktail*, 2015. **31**: 1-12.
3. Jepson, P.R., *Saving a species threatened by trade: a network study of Bali Starling Leucopsar rothschildi conservation*. *Oryx*, 2016. **50**(3): 480-488.
4. BirdLife International, *Leucopsar rothschildi*. *The IUCN Red List of Threatened Species 2015: e.T22710912A78289078*. <http://dx.doi.org/10.2305/IUCN.UK.2015-4.RLTS.T22710912A78289078.en>. 2015.