

Saving a species threatened by trade: A network study of Bali starling conservation.

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Abstract

Saving species from extinction is a central tenet of conservation, yet success in this endeavour remains unpredictable and elusive especially where wildlife trade is involved. Influential conservation actors operating internationally favour and advocate strong regulatory and enforcement approaches to wildlife trade governance. However a broad body of evidence suggests that in some situations positive incentives for sustainable use may achieve better conservation outcomes. This contribution presents an analysis of efforts to avoid the extinction of the Bali starling – an iconic Indonesian species – over three decades. Drawing on network perspectives from environmental governance and geography it shows how an international project adopting traditional enforcement approaches generated a ‘prestige of ownership’ dynamic among local elites. This placed trade in the species ‘above’ the enforcement competencies of the relevant government authority leading to the species demise. Subsequently, two separate Indonesian initiatives created spaces of regulatory flexibility and embraced traits of the starling’s phenotype to construct identities for the species suited to the local context. This enrolled a wider range of actors into the species’ conservation, including bird-keeping elites, and led to significant successes in restoring captive and free flying populations. This case study highlights the potential of conservation networks that involve non-establishment actors. Further, whilst recognizing the

appeal of generic enforcement approaches to politicians, funders and urban supporter publics, it adds to a growing body of evidence that suggests top-down prescriptive conservation frameworks may undermine the ability of situated conservationists to develop interventions appropriate to their political and cultural realities.

Keywords

Wildlife trade, conservation effectiveness, species conservation, governance, networks, Bali starling, *Leucopsar rothschildi*, Indonesia

1. Introduction

Saving species from extinction is a central tenet of conservation, yet despite transformations in conservation science, policy, resources and public awareness, success in this endeavour remains unpredictable and elusive. This seems to be particularly so where wildlife trade is involved as evidenced by recent high profile policy and media campaigns in response to the perilous plight of several iconic taxa, notably elephants, rhinos, tiger and pangolin (see e.g. <http://www.unitedforwildlife.org/>). Difficulties in saving endangered species may be more systemic. For instance, in a review of 168 bird species classed as critically endangered, Butchart et al. (2006) identified only 16 for which interventions had prevented their extinction. This paper presents a case study of Bali starling *Leucopsar rothschildi* conservation in Indonesia over three decades (1978-2009). It aims to develop earlier contributions that I have made with my co-authors to the long-standing debate concerning the efficacy of strategies to govern wildlife trade and to theory development in endangered species conservation.

The 2014 London Conference on Illegal Wildlife Trade brought welcome issue attention to the acute pressures facing wildlife with a market value. A focus of the conference was the alignment of wildlife trade with security agendas and calls to class wildlife crime as a ‘serious crime’ (London Conference Declaration 2014). However, the last significant review of wildlife trade & regulation found that current regulatory systems frequently fail and the conceptual or empirical foundations of such strategies are often faulty or untested (Oldfield, 2003). In a subsequent Oryx forum, Cooney & Jepson (2006) questioned the efficacy of generic trade bans and argued for more ‘situated’ governance approaches that adopt either regulation or incentive-based approaches or a blend of the two depending on the characteristics of the species concerned and the context of their conservation. Challender & MacMillan (2014), writing from an economics perspective, similarly outline the risks associated with reducing “*the complex social, cultural and economic nature of wildlife trade into a simple law enforcement problem*” (p2).

Such perspectives elude to transformations in political systems, in particular the gradual change from centralized, hierarchically organized systems that govern by means of law, rule and order, to more horizontally organized, fragmented and complex systems of governance that govern through a combination of self-regulation, market and other incentives interacting with law (Sørensen & Toffing, 2007). Network perspectives from within political science, policy studies and geography respond to this move towards ‘network governance’. The first two disciplines tend to adopt institutional perspectives and focus on: i) the structure, spatial organisation and impact of governance networks (e.g. Betsill & Buckeley, 2007), ii) the role of networks in transnational rule-making (e.g. Duffy, 2006; Djelic & Sahlin-Andersson, 2006), iii) their efficacy in natural resource management (e.g. Gibbs, 2007) and iv) the implications of network governance for democratic theory (e.g. Sorenson & Toffing, 2007).

Post humanist perspectives in Geography offer useful conceptual insights for the study of conservation networks (see Jepson et al, 2012). Of particular relevance to this study are: 1) understandings of agency as emergent property of relations rather than the property of particular human actors (individual or organization), 2) the logic that if agency is relational any entity in a network is conceivably an actor because the relations in which an entity is embedded can imbue it with the capacity to influence unfolding events (act) and, 3) that actors (including species) achieve their identity as a consequence of the relations in which they reside (Latour, 2005; Blok, 2007). These insights identify a potential weakness in the design of endangered species interventions. Namely the tendency of lead conservation actors to prescribe an identity for a species that reflects and reinforces their worldviews, agendas and/or technologies of conservation, and the risk that this identity might be in tension with the identities of the species in the cultural context of its conservation and amongst local conservation networks (cf. Callon, 1986).

In a perspective on theorizing endangered species conservation, Ladle & Jepson (2008) suggested that contemporary practice is informed by the small population and declining population paradigms. These posit that declining populations are i) increasingly subjected to biotic and abiotic feedback loops that lead to an 'extinction vortex' (Gilpin & Soule, 1986) and ii) that population declines have identifiable causes that can be diffused with considered interventions (Caughley, 1994). We argued that missing from this theorization is consideration of other important causal agents, namely the behaviour of conservation organizations and other societal actors and the identities of the endangered species in their cultural context. Network perspective offer a means to investigate these, and other interactions, and are particularly suited to the analysis of species conservation. This is because conservation has probably always been

enacted “with and through networks” (sensu. Rhodes, 2007, p1246) due to its social movement heritage and focus on governing both human and non-human populations.

Following a description of methods, this case study first presents a history of Bali starling conservation and the species’ iconic status as background to the following accounts of the actors and logics involved in the formation and performance of four conservation networks. Insights from these network case studies are then brought into dialogue with the debates in wildlife trade governance outlined above and broader discussions on how best to save critically endangered species.

2. Methods

This study is informed by four information sources: 1) recollections of my direct involvement in Bali starling conservation activities (whilst Head of the Birdlife International–Indonesia Programme 1991-1997) that were prompted and checked through review of project reports and the draft of an article I had prepared in 1998, 2) review of literature on the Bali starling, 3) an applied study (2005-2008) on the culture of bird-keeping in Java and Bali (Jepson, 2010; Jepson et al., 2011b), and 4) 16 key-informant interviews conducted between June and November 2009 with people directly involved in the three Bali starling conservation initiatives. Respondents were identified from a combination of personal knowledge and ‘snowballing’ (i.e. persons identified by respondents). Interviews were conducted in person (Indonesia and UK) or by telephone (US and Netherlands) in English or a mix of English and Bahasa Indonesian. Topics explored included the basis of the species popularity in Indonesia, interviewees involvement in the project(s) and their views on the worldviews and techniques of different stakeholders. Interviews were recorded with the interviewee’s permission and transcribed. Data analysis and

writing started simultaneously and this informed the specific content of some interviews. Interviews were supplemented with site visits and informal conversations at breeding and release facilities in BBNP and Nusa Penida island during August 2009. To assure anonymity quotes in the text are attributed to one of three categories of interviewee, namely government (G), Zoo (Z) and NGO (N) and identified by the letter and interview number.

3. Results

3.1 *A short history of Bali Starling conservation*

The Bali starling is endemic to the island of Bali, Indonesia and was ‘discovered’ by western science relatively recently in 1911. It has a white body and crest and black tips to the wings and tail. It was afforded legal protection in Indonesia in 1958 and included in the 1977 Red Data Book (King, 1977). A large export of Bali starlings to Europe and the US during the 1960s and 1970s provoked inclusion of the species on Appendix 1 of the Convention on International Trade in Endangered Species (CITES) when Indonesia ratified in 1978.

Counts of the wild population revealed steady declines from 300-400 birds in 1976/77, to 125-180 birds in 1984 and to just 13 or 14 individuals in 1990. After a brief recovery to 45 birds in 1993, numbers declined to 15 in year 2000 (van Balen & Gepak, 1994) and reports suggest that the species became extinct in the wild in 2006 (this study). In contrast the zoo population in Europe (700 birds) and the US (600 birds) reached saturation point in the late 1980s (BirdLife International, 2001).

In 1983 the International Council for Bird Preservation (ICBP, since 1991 BirdLife-International) and the Indonesian Government’s Directorate General for Forest Protection and Nature Conservation (PHKA) commenced a collaborative programme to protect and restore the

last remaining wild population of the species located in the Bali Barat National Park (BBNP). The first phase (1983-1987) studied the status and ecology of the population and produced a five-year recovery programme. Concurrently, the American Association of Zoological Parks and Aquaria (AAZPA, since 1994 AZA) developed and adopted (in 1985) a Bali Myna Species Survival Plan (Earnhardt et al., 2009). In 1987 these parties, together with the Jersey Wildlife and Preservation Trust (JWPT), embarked on a five year project (Phase III) with objectives relating to: 1) protection and monitoring, 2) restocking the wild population, 3) establishing captive-breeding in Indonesia; and 4) public awareness. The breeding component involved three Indonesia Zoos: Surabaya zoo (East Java) and *Taman Safari* and *Taman Burung* (both in West Java) (Collins et al., 1998). The BBNP authority was unable to control trapping of Bali starlings and BirdLife donors lost heart. In 1994 BirdLife withdrew from direct project involvement and the international effort petered out around year 2000 (BirdLife International 2001). Subsequently, in 2003 *Taman Safari* together with *Pelestari Burung Indonesia* (PBI – a national bird-keeper association) formed the *Asosiasi Pelestari Curik Bali* (APCB) to ‘flood the market’ with locally bred Bali starlings and provide a surplus of birds for release. In 2005, PHKA delegated management authority of the Indonesian *ex-situ* population to APCB who by 2011 increased the population of Bali Starlings to >1000 birds kept by 400 citizen breeders (this study).

In 1999 the Bali-based Begawan Giri Foundation (BGF) commenced a Bali starling breeding programme at its exclusive resort near Ubud on the recommendation of a Balinese NGO called Friends of the National Park Foundation (FNPF – no link with the BBNP). Since 2004, FNPF had been working with customary leaders on the island of Nusa Penida to create a sanctuary for the release of birds languishing in Indonesian wildlife rescue centres. In 2006 they

started releasing Bali Starlings in the island (Djikman, 2007) and a free-flying population with fourth-generation offspring was established in 2009 (this study).

3.2 *The basis of the Bali Starling's iconic status*

Indonesian respondents suggest that the species iconic qualities were constructed through the interplay of: 1) the rarity of white birds and their associations with concepts peace, purity, spiritually, and royalty, 2) the fact that it is endemic to Bali which is popularly framed as 'island of the Gods', and 3) interest in the species by President Sukarno, Indonesia's charismatic and part mystic independence leader (who probably requested protected status for the species in 1958). In addition, the species' beauty aligned and reinforced western constructs of Bali as an exotic tropical paradise. These date back to the 1930s when Bali became an 'in' destination for western artists, writers and media moguls (Shavit, 2006).

3.3 *Formative networks of Bali starling conservation*

The late HM Kamil Oseman, a senior Indonesian oil-executive, bird lover and founder of the ICBP Indonesian section, was the key 'node' in the first Bali starling conservation network. In 1978 he received a letter from the ICBP secretariat in Washington (initiated by the Dutch ICBP section) informing him of concerns regarding the starling's survival prospects and requesting his intervention. Oseman enrolled a leading US zoo curator in the cause when he accompanied the return to Indonesia of Palm cockatoos confiscated in the USA in 1981. This event, coming shortly after Indonesia's ratification of CITES, generated significant media interest in Jakarta and Oseman and the Zoo curator exploited this to gain access to senior PHKA officials and raise the plight of the Bali Starling.

By 1980 the starling was already a popular zoo exhibit in the US and Europe due to its exotic associations, beautiful plumage, lively behaviour and simple husbandry requirements.

Many US zoos had acquired specimens in the early 1970s *“but no one thought or realized what their status was in the wild”* (Intrv. Z1, 18.09.09). The plight of the starling aligned with new strategic goals of AAZPA that sought to strengthen the public legitimacy and scientific credibility of zoos by presenting them as institutes developing science-based technologies for conservation breeding and reintroduction (Conway, 1980; Lovejoy 1980). The Bali starling was the ideal species to develop, test and establish new technologies of studbook management. This was because it is easy to breed and most zoos already kept the species so *“for a relatively small expenditure ... they could become part of this international program”* (Intrv. Z1, 18/09/09).

In the early 1980s, the ICBP appointed its first two paid staff both with ecology backgrounds. ICBP's aim was to become the world authority on the status and conservation of the world's birds through systematic assessment of the threat status of every bird species. According to ICBP's first programme manager a Bali starling project aligned with this strategy because it offered a) a project the Dutch ICBP section could adopt, and b) the opportunity to establish a base in Indonesia from which ICBP could build its knowledge of the archipelagos' diverse and little known avifauna.

Oesman facilitated a collaborative Bali starling conservation project involving PHKA and ICBP in 1983. This aligned with the Suharto regime's (1967-1997) use of conservation policy as a means to generate favourable international profile. Indonesia hosted the 1980 IUCN World Parks Congress in Bali where Minister of Forestry, Soejaro, declared Indonesia's first 20 National parks including the BBNP: an international species survival project located on Bali made both political and conservation sense. As a result of these events the Bali starling became the talked about bird among Indonesian high society with interests in wildlife. Ownership of rare wildlife has long been a mark of status amongst the Indonesian army, police and bureaucracy due

to the practice (common up until the 1990s) of gifting wildlife to superiors as a demonstration of gratitude and loyalty. The Bali starling connected the most desirable internal government posting (Bali) with the most desirable external postings (New York, European capitals). By the mid-1980s ownership of a Bali starling had come to signify that a person had taste, an international outlook and was above the law because of his status within, or links to, the governing elite, his wealth, or a combination of both.

Indonesian respondents struggled to explain why prestige accrued from the illegal practice of owning a Bali starling. Responses suggested a ‘dynamic of prestige’ whereby sharing knowledge of ownership signifies a bond of trust with the recipient of that knowledge who accords the owner enhanced respect and admiration on account of the social status the owning a Bali starling signified. Adding to this, a senior PHKA official argued that the elite ‘trend’ for keeping Bali starlings was also a consequence of a misunderstanding of the awareness messages communicated by the international project. These inadvertently generated attitudes of “*why don’t we have it now before it’s finished?*” and “*It is better that I have one so I can breed them... If I leave it in the wild it will be finished*” (Intrv. G2, 27/08/09). As a consequence, a demand for Bali starlings emerged supplied by a powerful East Javan wildlife trade ‘mafia’ who trapped birds from the BBNP. This study was unable to establish whether elite owners sourced the species themselves or whether they were gifted them.

This study revealed that the run up to the 1992 Earth Summit in Rio exacerbated tensions between the ‘coordinating’ Ministry of Environment and the ‘line’ Ministry of Forestry (MoF). The former recognized the international kudos Indonesia could gain from its new mega-diversity country status (McNeely et al., 1990) and accused MoF of ‘*only ever cutting forests*’ (Intrv. G1, 15/07/09). In an effort to resolve differences Oseman and other ‘dignitaries’ facilitated a joint

meeting that led to a decree establishing a national flora and fauna day and requiring all provinces to adopt a species mascot. Unsurprisingly, Bali selected the Bali starling. This act accelerated the species' visibility in Balinese culture and art and its presence in the marketing of high-end tourist facilities, notably the Bali Hyatt Hotel and the Bali Bird Park (est. in 1994) (van Balen & Dirgayusa 1993)

3.4 The International Project

The three main players in the international project (AZA, ICBP/BirdLife & PHKA) problematized the species' plight in accordance with their respective conservation world-views and techniques. The zoo curators emphasized the small population size and concomitant risks of stochastic extinction and/or reduced fecundity due to in-breeding depression (e.g. Shaffer, 1981). From their perspective crucial to saving the species was knowing and managing the gene lines of the *ex-situ* and wild populations, increasing the latter through reintroduction, and establishing protocol to guard against introducing diseases. The ICBP ornithologists approached the problem from world-views that framed human-induced impacts on natural habitats as the primary threat to wild bird populations: the terms 'human occupation', 'habitat destruction', 'conversion', and 'encroachment' feature prominently in their assessments (Vincent, 1966-1971; Collar et al., 1994; BirdLife International, 2001). Their response logics emphasized ecological research and monitoring to understand the effects of direct and indirect anthropogenic factors on the wild population as a basis for develop management solutions. Finally, the PHKA approached the issue from the resource management ethos of foresters. They framed the starling as a natural resource to be secured in its environment with the prospect of some utility function at a future date.

These different problematisations of the Bali starling's critically endangered status produced points of contact and convergence that produced the semblance of a partnership of

complimentary expertise. Resource-inventory practices of PHKA foresters and ICBP ornithologists combined to produce a standardized biannual census technique involving park rangers and maps of habitat in need of protection inside and outside the park. AZA transferred to the Indonesian zoo community technologies of stud-book management and produced a release protocol together with the ornithologists. The PHKA organized ranger patrols in the park and the three parties collaborated on public awareness activities and releases of captive-bred birds. However, there were also important tensions between the US/Zoo and PHKA/ICBP conservation networks. The resident ICBP ornithologists and PHKA saw captive breeding as a second-choice option only useful if they were *'unable to support the species in its environment'* (Intrv. N4, 26/08/09). They viewed the periodic AZA visits, which involved captive-breeding workshops and promotion of the Vortex software (Lacy, 1993) as consuming a disproportionate amount of project resources and distracting from the core issues of park security and habitat management. AZA felt the resident ICBP ornithologists should do more to pressure BBNP on park security, whilst the ICBP ornithologists sensed this was beyond the power of PHKA but did not fully understand why.

This failure of park enforcement led to the demise of the partnership after 8 years. A high-ranking PHKA respondent explained the enforcement problem in terms of ministerial territories: *"outside a forest we are weak ... we are foresters... going out of this domain is very difficult... because there were many high ranking officials enjoying wildlife as private property"*. He noted that *"Most of the big stealing of Bali starling happened when the Park Director was away... and that the Bali starling price was a hundred times their [a ranger's] monthly salary"* (Intrv. G2, 27/08/09): the point being that trappers could easily pay rangers to overlook their

presence. In short, the trans-national conservation partnership lacked influence within the networks of power and accommodation that emerged around the Bali starling's elite status.

In 1994 the PHKA independently acted to address the elite ownership issue by introducing a policy dubbed the 'white-wash campaign' whereby owners would be encouraged to exchange their wild-caught Bali starling for a captive-bred American bird (legally a loan). The idea was to acquire genetically superior birds for the Indonesian captive breeding programme and for PHKA/MoF to assert ownership protected wildlife in captivity without antagonizing high status owners. The policy had limited up-take and many NGO conservationists decried the policy (which was extended to other species) as legalizing private keeping of endangered wildlife.

3.5 The Javanese Association

Following the demise of the international project, some of the Indonesian actors involved established a new network called the APCB (Association for Conservation of Bali Starling) in 2003. This emerged from an initiative of a network of journalists called FOKSI which *Taman Safari* had founded (in 1987) and subsequently nurtured as a means to improve the amount and quality of wildlife news reporting. In 2003, TS and PBI convened a FOSKI meeting where they profiled a citizen association that had formed to breed Straw-headed bulbuls *Pycnonotus zeylanicus*. Like the Bali starling, this species had been driven to extinction within Indonesia by trapping to supply local cage-bird markets. FOKSI journalists were inspired by the breeding success generated by the association's social learning model. They acted to convene an informal meeting to explore the possibility of a similar initiative for the Bali starling and invited PHKA on the understanding that "*we don't talk about legal and illegal things*" (Intrv. Z2, 17/07/09).

FOKSI members were able to use their local knowledge to generate a crucial statistic, namely that 600 starlings were kept privately in 140 Javan households. Armed with this data, TS

and PBI met several times with the Director of PHKA and developed an agreement whereby the government would delegate to APCB sole management authority of the Indonesian *ex-situ* Bali starling population for a trial three year period.

APCB was formally constituted with a board comprising representatives from Indonesian Zoos, PBI, FOKSI and the Indonesian partners of WWF and BirdLife International. A PBI leader stated the logic of the APCB as encouraging citizens to “*breed the birds because that will put birds into the market and the price will go down and by doing that the birds in BBNP will be more secure*”. Adding “*You will never get anywhere if you keep forbidding people to participate ... but of course you have to select carefully who can be trusted to participate*” (Intrv. Z3, 15/07/09).

The APCB committee began with 10 invited starling owners who PBI knew to be interested in breeding and conservation, including one who was already a successful Bali starling breeder. They organised training and the loan and exchange of birds to create breeding pairs. The network expanded as other owners applied to join, motivated by the prospect of commercial gains and being part of network involving high status individuals that would ‘buffer’ owners from ‘problems’ with the authorities. Within three years APCB doubled the captive population of Bali starling on Java to around 1000 birds. They transformed the Bali starling from an endangered protected species to a cage-bird whose market value and source of supply was public knowledge. The price of a pair dropped from Rp40million (c.a. US\$4500) to Rp 8-10million (c.a. US\$900). As a result the species lost agency in black market networks of wildlife supply.

As the number of breeders increased, APCB created two types: 1) government-licensed commercial breeders (5-10 only) able to sell birds certified as legal and who agreed to participate in the studbook and (in principle) donate 20% of their productivity to PHKA for release; 2) a

larger number of quasi-legal, unlicensed breeders operating outside the studbook and selling to anyone willing to buy with a letter from the breeder saying it was captive bred. In response to APCB's success the government decided to release a group of Bali starlings into BBNP to mark Indonesia's hosting of the UNFCCC conference in Bali in 2008. However the commercial breeders were reluctant to give up their birds given BBNP's its reputation for lax security. In response, APCB in partnership with three eco-resorts devised a 'soft' release solution. This involved creating release flocks that would stay within a resort's security through the technique of aviary cohorts and regular feeding of free-flying cohorts.

3.6 The Balinese Initiative

Concurrent with the APCB initiative, a distinct Balinese approach emerged led by Dr Bayu Wirayudha, a charismatic Balinese veterinarian, conservationist and director of Friends of the National Parks Foundation (FNFP). This initiative fused two separate conservation initiatives. The first involved a grassroots network of Indonesian conservationists, led by ProFauna (a national animal welfare organization) who had established a network of animal rescue centres across Indonesia. They faced the issue of what to do with rescued animals given Indonesia's high deforestation rates. One idea was to find an island value where rescued animals could establish free-living populations for future return to their native habitats. FNFP identified Nusa Penida, located close to Bali, as suitable for this purpose because it was ecologically degraded and 7 villages had customary laws protecting wild birds. In 2004, FNFP began to tour meetings of traditional leaders of the island's 41 villages to discuss Buddhist ideas concerning the sanctity of all life and offer help and support in putting this into action. Their approach was successful and by 2006 all village councils had passed customary laws protecting birds which turned the island into a bird sanctuary and eliminated bird trapping.

The second was an initiative of the British owners of the exclusive Begawan Giri resort who wanted to attract more birds to the hotel grounds. On Wirayudha's suggestion they started a Bali starling breeding programme with two pairs sourced from the UK in 1999: by 2006 they had built up a captive population of 95 birds. In 2004, the resort was sold: the new owners had no interest in the Bali starlings so they were moved (in 2005) to FNPF's centre on Nusa Penida and prepared for release. The release of starlings was supported by the preeminent traditional leader on Nusa Penda whose family has for generations managed the famous temple at Ped. He was seeking alternative tourism development trajectories in an effort to resist pressure from Jakarta-based interests wanting to build a casino on the island. His hope was that through its associations with Bali National Park the presence of Bali starling on Nusa Penida would project an image of the island that would attractive tourists. The first release was of 25 birds on 10, July 2006. The birds were first given as ceremonial offers to the temples of Ped and Batumadeg prior to their release in surrounding coconut plantations. This symbolically transferred ownership of the birds from government to the island's spiritual and ceremonial institutions of the island thereby reinforcing the customary bird protection regulations.

The FNFP leaders interviewed identified with cultural currents within Bali seeking to assert a Balinese identity distinct from the Javanese. One commented that *'if the Bali Starling is Bali's mascot the Balinese should save it'* and the people of Bali should be *'able to know it [their faunal symbol] and know it for free'* (Intrv. N5, 04/08/09). The BBNP was perceived as a Javanese administrative territory and the failure of the international project had produced a jaded view of the competences of 'establishment conservation'. FNFP's plan to release Bali starlings outside their known 'natural' range and into 'non-native habitats' caused controversy in establishment conservation circles. The Indonesian Institute of Sciences (LIPI) and two leading

Indonesian Universities lent their support to the release plan'. However, officials of influential international bird conservation NGOs argued that the plan was '*irresponsible*' '*against IUCN guidelines*' and '*counter to the doctrine of conservation*' (Intrv. Z4, 15/07/09). They lobbied PHKA in Jakarta who informed their representative office on Bali that without central government approval the release would be illegal. To counter this action FNFP asked a prominent figure in Bali's influential artistic circles (and a starling breeder) to facilitate a meeting with the Governor of Bali. The Governor supported FNFP by encouraging his heads of army and police to attend the release ceremony. The objections of external conservation authorities were further over-ruled when on 26 April 2007 President Susilo Bambang Yudhoyono visited the Temple at Ped (which is believed to impart aura) and conducted a second ceremonial release of 12 Bali starlings.

FNPF released a total of 64 birds between up until 10th December 2007 at four locations. These birds bred and (in 2009) third generation offspring were flying free in agricultural habitats. A July 2009 census by the Biology faculty of Udayana University counted at least 84 birds. In 2010 the original breeding stock was reclaimed by the Begawan Foundation ending this phase of the Nusa Penida release programme.

4. Discussion

By adopting a network perspective this 30-year case study of Bali starling conservation adds depth and insight to standardised accounts of species endangerment (e.g. BirdLife International, 2001). The insights gained inform long-standing debates on different strategies to govern wildlife trade. In addition they suggest testable hypothesis for theory development in endangered species conservation.

Illegal trapping and trade became the primary threat to the Bali starling's survival in the wild. Law enforcement is the approach long-favoured by governments, conservation and animal welfare NGOs to address forms of trade related threat. This study revealed that a traditional law enforcement approach was ineffective and contributed to the failure of an international conservation partnership. This was because the combination of the starling's beauty, international profile and illegality of supply generated forces of 'prestige of ownership' among ruling and business elites who were above the enforcement competencies of the responsible government agency. Recent initiatives to elevate wildlife trade to a serious crime may address such 'prestige dynamics' through increasing risks of ownership by involving higher level policing authorities. However, this proposition is as yet untested, as is the assumption that Governments possess the resources and political capital to extend strong enforcement beyond a small set of iconic species.

The Javanese and Balinese initiatives suggest that effective, low cost approaches may emerge in situations of regulatory flexibility where local conservation actors can blend conservation techniques with local cultural resources. The agreement of PHPA to relax (suspend) provisions under Indonesia's species protection law on a trial basis created the space for the APCB to mobilize Java's bird breeding heritage to supply a 'commercial' Bali starling. This reduced the species' market price and prestige of ownership, thereby making the supply of wild caught birds financially unattractive for the crime syndicate involved. Furthermore, it converted the Bali starling into an asset: generating value in the form of new enterprise and livelihood options for urban citizens, a release ceremony to mark Indonesia's hosting of a major environmental conference, and enhanced visitor experience at eco-lodges. In contrast to the APCB who were able to negotiate a period of regulatory flexibility, FNFP had to actively 'push

back' against protected species legislation and 'soft law' international guidelines relating to reintroductions (IUCN/SSC, 1995) by enrolling the support of the Governor of Bali. They created a 'sacred' Bali starling afforded protection by customary institutions on Nusa Penida that embody Buddhists beliefs on the sanctity of all life. This process also transformed the starling into an asset: one generating intrinsic value to local leaders seeking to protect their cultural traditions in the face of external commercial pressures.

The two Indonesia initiatives make visible and question underlying assumptions within the international conservation regime. For instance, the 'flood the market' approach of APCB was proposed by a progressive-thinking PHPA official in 1996 and included in the PHPA/BirdLife Indonesia Programme Bali Starling Recovery Plan (Jepson et al., 1997). However it failed to gain international support. This was in part due to concerns that it contravened protected species legislation and might increase demand for wild birds (for breeding stock), but also on account of assumptions that the keeping, protection and management of endangered species should be non-commercial, the prerogative of expert authorities, and performed in designated conservation territories. Whilst the Indonesian projects contravened a strict interpretation of species law they delivered on the values such law codifies: namely avoiding the extinction of species.

Contrasting the three Bali Starling conservation initiatives helps clarify the distinction between a conservation partnership and a conservation network. The former is the more common arrangement in conservation and the BirdLife/AZA/PHKA project fitted the model of organizations with recognized expertise agreeing to collaborate to achieve a shared goal (saving the Bali starling) in accordance with international conservation norms. The international partnership prescribed a fixed identity for the Bali starling, namely that of a critically endangered

bird of monsoon forest habitat native to Bali, and sought to save their version of the starling. In contrast, the ABCB and FNFP initiatives embraced the affordances of the Bali starling's phenotype (its beauty and simple ecology) to construct (or adopt) identities suited to local cultural contexts. In so doing they allowed the species a role in assembling a looser array of actors into conservation networks. These included actors that the BirdLife/AZA/PHKA partnership eschewed or considered irrelevant, notably private Bali Starling owners, prominent artists, politicians and customary leaders. The network relations created produced forms of agency resulting in reduced wild-capture, enhanced breeding and increased numbers of Bali Starlings released.

Conventional accounts of failures to save iconic species advocate the need for better site-based protection, better ecological knowledge, increased political will and donor focus (e.g. Sanderson et al., 2002; Brooke et al., 2014). Such accounts assume that improved performance by establishment actors will deliver better conservation outcomes. This study adds another dimension suggesting that the involvement and leadership of local and non-establishment conservation actors creates the conditions for impact. This is because they are better able to develop culturally-attuned, incentive-based approaches that will enlist and mobilise a more heterogeneous network of actors in efforts to conserve a species.

I am aware that the debate on enforcement vs. sustainable use revolves mostly around strategies to conserve mega-fauna threatened by trade in international markets and share concerns about the danger such markets create particularly for rangers. However, the core message of this case study – that a pragmatic, 'situated' and contextual approach may be the best strategy for governing domestic wildlife trade concurs with a large body of research on strategies to govern the bushmeat trade (Bennet et al 2007; Minter 2013). Further, it extends Roe *et al.*'s

(2014) argument that restricting sustainable use can limit rural livelihood options to include urban communities. It is not clear whether international wildlife trade has different rules to domestic trade. What does seem clear is that it would make sense to bring these two bodies of evidence into closer dialogue.

It is not my intent to denounce the international project of which I was part. It was of its time and the Bali starling was effectively deployed as an asset in the establishment of international conservation institutions during the 1980s and 90s. Rather, this case study foregrounds the need for multi-level conservation governance institutions with built-in flexibility. Advocacy and decision making at the international level requires a degree of simplification and abstraction. However, it is important that conservationists operating in this space are cognizant and reflexive concerning their limited understandings of the complex, situated realities of on-the-ground action. Generic approaches such as trade bans, stricter enforcement and consumer campaigns may appeal to politicians, funders and urban supporter publics but they risk constructing a top-down prescriptive framework that compromises the ability of situated conservationists to develop interventions appropriate to their political and cultural realities. Perhaps it is time for internationally-orientated conservation professionals to adopt principles aimed at nurturing culturally diverse approaches to governing wildlife trade and the practice of endangered species conservation.

Acknowledgements

I thank colleagues involved in Bali starling conservation for agreeing to be interviewed for this research, and staff of FNFP for making me and my family so welcome in Ubud and Nusa Penida. Maan Barua, Rosaleen Duffy, Anna Hushlak, Meredith Root-Bernstein and four anonymous

reviewers provided valuable comments on drafts of this manuscript for which very grateful. The research was part financed by a School of Geography and the Environment travel research grant.

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Biography

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