The Minister approved this conservation advice and transferred this species from the Endangered to the Critically Endangered category, effective from 5 May 2016.

Conservation Advice

Lathamus discolor

swift parrot

Taxonomy

Conventionally accepted as *Lathamus discolor* (Shaw 1790).

Summary of assessment

Conservation status

Critically Endangered: Criterion 1 A3(b)(e)

The highest category for which *Lathamus discolor* is eligible to be listed is Critically Endangered.

Lathamus discolor has been found to be eligible for listing under the following listing categories:

Criterion 1: A3(b)(e): Critically Endangered
Criterion 2: B2 (a) (b)(ii)(iii)(v) (c)(ii):Endangered
Criterion 3: C1, C2(a)(ii): Endangered

Species can be listed as threatened under state and territory legislation. For information on the listing status of this species under relevant state or territory legislation, see
http://www.environment.gov.au/cgi-bin/sprat/public/sprat.pl

Reason for conservation assessment by the Threatened Species Scientific Committee

The swift parrot was listed as Endangered under the predecessor to the *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act) the Endangered *Species Protection Act 1992* and transferred to the EPBC Act in June 2000.

This advice follows assessment of information provided by public nomination to change the listing status of *Lathamus discolor.*

Public Consultation

Notice of the proposed amendment and a consultation document was made available for public comment for greater than 30 business days between 2 December 2015 and 22 January 2016. Any comments received that were relevant to the survival of the species were considered by the Committee as part of the assessment process.

Species Information

Description

The swift parrot is mostly bright green in colour, with dark-blue patches on the crown, a prominent red face, and the chin and throat are narrowly bordered with yellow. It is approximately 25 cm in length, the wingspan is 32 to 36 cm and it weighs approximately 65 g. It is a slim, medium-sized parrot with angular pointed wings and a slender tail giving it the characteristic streamlined flight-silhouette (Higgins 1999).

Distribution

The swift parrot breeds in Tasmania during the summer and the entire population migrates north to mainland Australia for the winter. They occupy habitats across all tenures, with the majority of habitats occurring outside formal conservation reserves. The breeding range of the swift parrot is largely restricted to the east and south-east coast of Tasmania and closely mirrors the distribution of blue gum (*Eucalyptus globulus*). The species breeds in the north-west of the state between Launceston and Smithton, however, the number of birds involved and frequency of these breeding events is not well understood. Potential breeding habitat remaining in the north-west is scarce and highly fragmented (Saunders & Tzaros 2011).

Whilst on the mainland the swift parrot disperses widely to forage on flowers and *psyllid* lerps in Eucalyptus species, with the majority being found in Victoria and New South Wales. In Victoria, swift parrots are predominantly found in the dry forests and woodlands of the box-ironbark region on the inland slopes of the Great Dividing Range. There are a few records each year from the Melbourne and Geelong districts and they are occasionally recorded south of the divide in the Gippsland region. During periods of drought in central Victoria, swift parrots may concentrate in coastal drought refuge habitats in New South Wales, as observed in 2002 and 2009 (Tzaros et al., 2009; Saunders & Tzaros 2011).

In New South Wales, swift parrots forage in forests and woodlands throughout the coastal and western slopes regions each year. Coastal regions tend to support larger numbers of birds when inland habitats are subjected to drought (Saunders & Tzaros 2011).

Small numbers of swift parrots are observed in the Australian Capital Territory and in south-eastern Queensland on a regular basis. The species is less frequently observed in the southern Mount Lofty Ranges and the Bordertown-Naracoorte area in south-eastern South Australia (Saunders & Tzaros 2011).

Area of occupancy appears to have declined significantly since European settlement, as can be inferred from the extent of habitat loss. For example, 83 percent of box-ironbark habitat (the principal wintering habitat of the swift parrot on the mainland) has been cleared in Victoria, and 70 percent has been cleared in New South Wales (Environment Conservation Council 2001; Robinson & Traill 1996; Siversten 1993). White box-yellow gum-Blakely's red gum woodland, another important habitat in New South Wales, has been reduced to less than 4 percent of its pre-European extent on the south-western slopes and southern tablelands of New South Wales (Saunders 2003); and in Tasmania, approximately 70 percent of grassy Tasmanian Blue Gum forest, the preferred foraging habitat during the breeding season, has been cleared (Swift Parrot Recovery Team 2001).

Relevant Biology/Ecology

Swift Parrots are usually seen in small parties of up to 30 birds, or occasionally in larger flocks (of several hundred birds) around sources of abundant food. There have also been a few extraordinary reports of flocks numbering in excess of 1000 birds (Higgins 1999.). Swift parrots are migratory. They breed in Tasmania and then move to mainland Australia in autumn for the non-breeding season. Most of the population winters in Victoria and New South Wales, before returning to Tasmania in spring. They are generally gregarious when breeding; many pairs nest in close proximity, and thus are considered loose colonies (Higgins 1999).

Swift parrots breed in tree-hollows in old-growth or other forest with suitable hollows, in relatively close proximity to the main food source, flowering Tasmanian blue gum. Several pairs often nest in close proximity, in the same or neighbouring trees (Webb et al., 2007). Breeding success is correlated with the intensity and extent of flowering, which is highly variable between years. In poor years, swamp (black) gum (*E. ovata*) is used as food source (Brereton et al., 2004).

The species exhibits high site fidelity, returning to locations on an irregular cyclic basis (Saunders 2008). They disperse across eastern Tasmania after breeding and migrate to overwinter on the mainland in flowering woodlands and forests. They feed preferentially in the largest trees available (Kennedy & Overs 2001; Kennedy & Tzaros 2005). Their distribution fluctuates with food availability as they feed on *psyllid* lerps, seeds and fruit (Kennedy & Tzaros 2005). Non-breeding birds preferentially feed in inland box-ironbark and grassy woodlands, and coastal swamp mahogany (*E. robusta*) and spotted gum (*Corymbia maculata)* woodland when in

flower; otherwise often in coastal forests from eastern Victorian to the central coast of New South Wales. A generation time of 5.4 years is derived from an age at first breeding of 2.0 years and maximum longevity of 8.8 years, both values estimated by an expert committee (Garnett et al., 2011).

Threats

Predation by sugar gliders: Until recently the main threat to swift parrots was thought to be habitat loss and alteration within breeding and drought refuge habitats. However, predation on the nest by sugar gliders (*Petaurus breviceps*) is now considered to pose a significant threat to the species, as sugar gliders take not only the young or eggs in the nest but also often kill the sitting female (Heinsohn et al., 2015). While a species native to the Australian mainland, sugar gliders are thought to be introduced to mainland Tasmania (Gunn 1851; Rounsevell et al., 1991; Lindenmayer 2002; Hui 2006).

Stojanovic et al. (2014) found that swift parrot nests failed at a very high rate on the Tasmanian mainland, compared to no failure on offshore islands where sugar gliders were shown to be absent. Most cases of glider predation resulted in the death of the adult female parrot, and always involved the death of either eggs or nestlings. Predation by sugar gliders has been recorded at all locations on mainland Tasmania where swift parrots breed. On the Tasmanian mainland, predation rates interact with the extent of habitat disturbance from logging, with a positive relationship between nest survival and increasing mature forest cover at the landscape scale (Stojanovic et al., 2014).

Habitat loss and alteration: Land clearing for plantation development and native forest silviculture has dramatically reduced landscape cover of nesting and foraging habitat for swift parrots (Prober & Thiele 1995; Saunders et al., 2007). In Tasmania, forest loss has been severe across the entire breeding range of the swift parrot except Maria Island (Saunders & Tzaros 2011). Habitat loss and alteration also occurs via residential, agricultural and industrial development, and dieback and suppression of regeneration in agricultural and urban areas. Habitat loss has impacted swift parrots across their mainland (Wilson & Bennett 1999; Kennedy & Overs 2001; Kennedy & Tzaros 2005) and Tasmanian range (Munks et al., 2004; Forest Practices Authority 2010).

Wildfire impacts swift parrot habitat by altering tree flowering phenology (Woinarski & Recher 1997) and tree cavity availability (Inions et al., 1989; Gibbons et al., 2000). At one known nesting location for swift parrots, greater than 60 percent of nest trees collapsed within one year after a wildfire (Stojanovic et al., In Prep; Webb et al., 2012).

Collision mortality: Collisions with wire netting, mesh fences, windows and cars cause mortality to swift parrots in urban areas throughout their range (Pfennigwerth 2008). Continuing urban encroachment into breeding and foraging habitat is likely to worsen this problem. The threat is exacerbated in years when swift parrots occupy urban areas to forage on remnant or planted eucalypts. Collisions are of particular concern in the greater Hobart and Melbourne areas and the New South Wales central and north coast regions, where injuries and fatalities have been recorded (Tzaros 2002).

Competition: Swift parrots can experience increased competition for resources from large, aggressive honeyeaters within altered habitats (Ford et al., 1993; Grey et al., 1998), and from introduced birds and bees (Brown 1989; Paton 1993; Hingston et al., 2004; Heinsohn et al., 2015). Swift parrots compete with honeybees (*Apis mellifera*) and starlings for tree cavities, where nestling parrots can be killed and the cavities usurped (Heinsohn et al., 2015). This competition is worst in forest that is disturbed or fragmented (Stojanovic, D. Unpublished Data).

Psittacine Beak and Feather Disease: Psittacine Beak and Feather Disease (PBFD) is a widespread, lethal parrot disease (Department of Environment and Heritage 2005), which is known to occur in swift parrots (Sarker et al., 2013) and has been recorded in swift parrot nestlings in the wild population (Stojanovic, D. Unpublished Data).

Illegal wildlife capture and trading: Swift parrots are valued internationally and domestically by bird keepers and breeders and are vulnerable to illegal trade, but the extent of such activities and their impact on the swift parrot population is currently unknown.

How judged by the Committee in relation to the EPBC Act Criteria and Regulations

Criterion 1. Population size reduction (reduction in total numbers) Population reduction (measured over the longer of 10 years or 3 generations) based on any of A1 to A4			
	Critically Endangered Very severe reduction	**Endangered Severe reduction**	**Vulnerable Substantial reduction**
A1	**≥ 90%**	**≥ 70%**	**≥ 50%**
A2, A3, A4	**≥ 80%**	**≥ 50%**	**≥ 30%**

A1   Population reduction observed, estimated, inferred or suspected in the past and the causes of the reduction are clearly reversible AND understood AND ceased.

A2   Population reduction observed, estimated, inferred or suspected in the past where the causes of the reduction may not have ceased OR may not be understood OR may not be reversible.

A3   Population reduction, projected or suspected to be met in the future (up to a maximum of 100 years) [(*a) cannot be used for A3*]

A4   An observed, estimated, inferred, projected or suspected population reduction where the time period must include both the past and the future (up to a max. of 100 years in future), and where the causes of reduction may not have ceased OR may not be understood OR may not be reversible.

based on any of the followin

(a)   direct observation [*except A3*]

(b)   an index of abundance appropriate to the taxon

(c)   a decline in area of occupancy, extent of occurrence and/or quality of habitat

(d)   actual or potential levels of exploitation

(e)   the effects of introduced taxa, hybridization, pathogens, pollutants, competitors or parasites

Evidence:

Eligible under Criterion 1 A3(b)(e) for listing as Critically Endangered

There are no recent estimates of the number of swift parrots in the wild. Garnett et al., (2011) derived an estimate of approximately 2,000 mature individuals as part of the Bird Action Plan 2010 assessment process, and considered the population to be declining. As the most recent estimate was made in 2010, and the population was thought to be declining then, the population is now likely considerably less than 2,000 birds.

Heinsohn et al. (2015) constructed a population viability analysis (PVA) using demographic data gained from an intensive five year field study (Stojanovic et al., 2014; Webb et al., 2014). Five scenarios were considered in the PVA. The first scenario was based on field data from Bruny and Maria Islands, which are both sugar glider free. This scenario estimated growth rates in the absence of sugar glider predation and projected a substantial increase in numbers over time. Four other PVA models were tested which accounted for sugar glider predation but used differing generation times.

The mean decline over the four scenarios that included sugar glider predation was projected at 86.9 percent (range over the four models was 78.8-94.7 percent decline) over three generations. The preferred model by Heinsohn et al. (2015) projected that swift parrots would undergo an extreme decline of 94.7 percent within a three generation period. This model used a generation time of 5.4 years, which was obtained through expert elicitation (Garnett et. al., 2011). While research has found that that breeding success is much higher on sugar glider free islands (Stojanovic et al., 2014), this greater success was insufficient to buffer the population against collapse under the modelled scenarios (Heinsohn et al., 2015).

Heinsohn et al., (2015) suggests that the projections of population decline in swift parrots are conservative because they exclude important factors known to limit swift parrot populations. For

instance, excluded from these projections are factors such as lower breeding participation by adults due to nest site limitation (Stojanovic et al., 2012; Webb et al., 2012; Stojanovic et al., 2014), incidental mortality (like collisions), habitat loss, competition and disease (Garnett et al., 2011; Saunders & Tzaros 2011). Also, the population viability analysis (PVA) does not account for the synergistic effect of sugar glider predation and forest loss. Based on the current trajectory of habitat management, where loss of potential breeding habitat is inevitable under management practices used in production forestry (Forest Practices Authority 2010; Chuter & Munks 2011), population viability of swift parrots is likely to worsen as habitat continues to be logged.

The PVA results of Heinsohn et al., (2015) support listing the swift parrot as 'Critically Endangered' under Criterion 1 (A3, b, e). Using (b), an index of abundance appropriate to the taxon (population estimates together with high quality demographic data for projecting into the future), and (e), the effects of introduced taxa (sugar gliders), all but one of the models presented by Heinsohn et al., (2015) exceed the minimum threshold for the criterion of an 80 percent reduction, and the mean decline predicted by all models (86.9 percent) is well in excess of the minimum threshold to qualify as Critically Endangered.

The Committee considers that swift parrots are likely to undergo a future very severe reduction in population size over three generation lengths (16.2 years for this assessment) of approximately 87% and that the primary threat – predation of eggs and sitting females on the nest by introduced sugar gliders – has not ceased. Therefore, the species meets the elements of Criterion A3(b)(e) making it eligible for listing as Critically Endangered.

Criterion 2. Geographic distribution as indicators for either extent of occurrence AND/OR area of occupancy			
	Critically Endangered Very restricted	Endangered Restricted	Vulnerable Limited
B1. Extent of occurrence (EOO)	< 100 km²	< 5,000 km²	< 20,000 km²
B2. Area of occupancy (AOO)	< 10 km²	< 500 km²	< 2,000 km²
AND at least 2 of the following 3 conditions indicating distribution is precarious for survival:			
(a) Severely fragmented OR Number of locations	= 1	≤ 5	≤ 10
(b) Continuing decline observed, estimated, inferred or projected in any of: (i) extent of occurrence; (ii) area of occupancy; (iii) area, extent and/or quality of habitat; (iv) number of locations or subpopulations; (v) number of mature individuals			
(c) Extreme fluctuations in any of: (i) extent of occurrence; (ii) area of occupancy; (iii) number of locations or subpopulations;(iv) number of mature individuals			

Evidence:

Eligible under Criterion 2 B2 (a) (b)(ii)(iii)(v) (c)(ii) for listing as Endangered

The non-breeding range of swift parrots includes much of the east coast of mainland Australia, primarily including forested areas of Victoria and eastern New South Wales but ranging up to south-east Queensland. The full extent of occurrence (EOO) for this species was estimated at 57,000km² in the Action Plan for Australian Birds 2010 (Garnett et al., 2011), which is not considered limited.

Given the temporally and spatially variable long-distance movements of swift parrots, and their specialised breeding and foraging requirements, calculating area of occupancy (AOO) for the species is challenging. Each year swift parrots move long distances to occupy new locations in response to changing food availability at the landscape scale. Swift parrots breed in Tasmania (Higgins, 1999; Garnett et al., 2011) and require rich patches of tree flowering as well as suitable nest cavities for breeding (Webb et al. 2014, Heinsohn 2015). To meaningfully represent area of occupancy for this specialised species, both habitat features must be considered.

Webb (manuscript in-prep) used several methods to calculate area of occupancy for swift parrots in its breeding range over a six year period, from 2009-2014. These approaches included using traditional habitat suitability models and more refined models taking into account required nesting and foraging habitat (including flowering conditions) verified by presence/absence data. Using a traditional habitat suitability model, accounting for presence/absence data and restricting the analysis to areas of mature forest, the nesting area occupied by swift parrots ranged from 41 km^2 in 2014 to 713 km^2 in 2011, with an average area of occupancy of approximately 425 km^2 per year over the six year period.

Webb then refined the above model to include a mature forest layer, which assigns a percentage crown cover of mature trees to each polygon, based on the assumption that mature trees are more likely to contain suitable tree hollows for nesting. Using the refined model incorporating the mature forest layer adjustment, the area of occupancy estimates over the six year period between 2009 and 2014 ranged from 11 km^2 to 297 km^2. However, even these figures are likely inflated as the mature forest layer used in that analysis was built to estimate timber volume and does not directly account for tree hollow abundance.

In addition to estimating the area of occupied nesting habitat, the area of occupied foraging habitat was also estimated for each year. Based on a map of swift parrot foraging habitat, modified by removing areas of recently logged forest, regrowth forest and areas that contained few of the key feed species, the foraging area occupied by swift parrots ranged from 7.5 km^2 to 98 km^2 over the six year period. Combining foraging habitat and the adjusted mature forest estimates probably represents the most accurate assessment of actual area of occupancy for this species. Using these combined figures, the area of occupancy for swift parrots ranged from 18.5 km^2 to 355 km^2 between 2009 and 2014.

These estimates show not only that swift parrots have a restricted area of occupancy but also that they undergo extreme fluctuations in the area used between years, with the difference being greater than an order of magnitude. The detailed habitat modelling provided in Webb (manuscript in-prep) also shows that within a single year, swift parrots occupy a restricted number of locations, always utilising less than five locations in each of the study years between 2009 and 2014, making them eligible for endangered listing under criterion 2 B2(a).

There is also strong evidence to support a continuing decline in the area of occupancy. Historically, there has been a loss of swift parrot breeding habitat due to land clearing for agricultural expansion (Garnett et al., 2011; Saunders & Tzaros 2011). Ongoing loss of breeding habitat (i.e. both nesting and foraging habitat) is also continuing (Saunders & Tzaros 2011). In addition to the impact of production forestry on the area of occupancy of swift parrots in Tasmania, other processes act to further reduce the availability of habitat. For instance, wildfires degrade the quality of breeding habitat, with one recent fire at the Craigow site (Webb et al., 2012) causing the collapse of over 60 percent of known nest trees while also killing or de-stabilising an additional proportion of the remaining trees (Stojanovic, D. In Prep). Similarly, destructive wildfires in 2007 (northeast Tasmania) and 2013 (the 'Dunalley fire' – southeast Tasmania) severely burned large tracts of swift parrot breeding habitat. Given the extent and severity of forest loss across the breeding range of swift parrots, and the further deleterious impacts over large areas of mainland Tasmanian by sugar gliders, there is strong evidence to support a continued decline in the area of occupancy of swift parrots.

The Committee considers that the species is eligible for listing as Endangered as it meets parts B2 (a) (b)(ii)(iii)(v) (c)(ii) of this criterion; that is there is good evidence to support a restricted distribution and infer ongoing declines in the area of occupancy, area, extent and quality of habitat and number of mature individuals; there is evidence to suggest extreme fluctuations in area of area of occupancy; and swift parrots occupy less than five locations within any single breeding year.

Criterion 3. Population size and decline			
	Critically Endangered Very low	**Endangered Low**	**Vulnerable Limited**
Estimated number of mature individuals	**< 250**	**< 2,500**	**< 10,000**
AND either (C1) or (C2) is true			
C1 An observed, estimated or projected continuing decline of at least (up to a max. of 100 years in future)	**Very high rate 25% in 3 years or 1 generation (whichever is longer)**	**High rate 20% in 5 years or 2 generations (whichever is longer)**	**Substantial rate 10% in 10 years or 3 generations (whichever is longer)**
C2 An observed, estimated, projected or inferred continuing decline AND its geographic distribution is precarious for its survival based on at least 1 of the following 3 conditions:			
(a) (i) Number of mature individuals in each subpopulation	**≤ 50**	**≤ 250**	**≤ 1,000**
(ii) % of mature individuals in one subpopulation =	**90 – 100%**	**95 – 100%**	**100%**
(b) Extreme fluctuations in the number of mature individuals			

Evidence:

Eligible under Criterion 3 C1, C2(a)(ii) for listing as Endangered

The most recent population estimate for the swift parrot is 2000 birds (Garnett et al., 2011), which is 'low' under Criterion 3. This estimate was considered to have a medium reliability. Garnett et al., (2011) also considered that the population was still likely declining and suggested that all individuals were contained in a single subpopulation.

Population viability analysis for swift parrots using high quality field data show that swift parrots are projected to decline very severely in the near future as a result of sugar glider predation (Heinsohn et al., 2015). These models have been discussed in detail under Criterion 1. The average rate of decline over one generation for the swift parrot using the modelled data was approximately 50 percent over the five models (range was 39.67-64.13 percent; Stojanovic et al., (unpublished data)). This steep rate of decline exceeds the 'Critically Endangered' threshold.

The Committee considers that the species is eligible for listing as Endangered under this criterion as the total population is likely below 2,000 mature individuals and because it meets C1, C2(a)(ii) as the population is considered low and is projected to undergo a continuing decline over the next generation, and because 100 percent of mature individuals are found in a single subpopulation.

Criterion 4.	Number of mature individuals		
	Critically Endangered Extremely low	Endangered Very Low	Vulnerable Low
Number of mature individuals	< 50	< 250	< 1,000

Evidence:

Not eligible

There are no recent estimates of the number of swift parrots in the wild. Garnett et al., (2011) derived an estimate of approximately 2,000 mature individuals as part of the Bird Action Plan 2010 assessment process, and considered the population to be declining. As the most recent estimate was made in 2010, and the population was thought to be declining then, the population is now likely less than 2000 birds. There is no evidence, though, that the adult population currently numbers less than 1,000 mature birds.

Following assessment of the data the Committee has determined that the species is not eligible for listing in any category under this criterion as the number of mature individuals is not thought to be extremely low, very low or low.

Criterion 5.	Quantitative Analysis		
	Critically Endangered Immediate future	Endangered Near future	Vulnerable Medium-term future
Indicating the probability of extinction in the wild to be:	≥ 50% in 10 years or 3 generations, whichever is longer (100 years max.)	≥ 20% in 20 years or 5 generations, whichever is longer (100 years max.)	≥ 10% in 100 years

Evidence:

Insufficient data to determine eligibility

The population viability analyses presented by Heinsohn et al., (2015) are valuable for demonstrating the deterministic trend of the population but do not provide useful estimates of the probability of extinction because of inadequate measures of the variability around some parameters. Whereas the standard deviation around fledging success is likely to reflect true variability because of the large sample size of nests under observation, calculations of variation in mortality rates between years and sites were by necessity more limited and likely to underestimate the true variation (Lacy et al., 2014).

There are no other relevant population viability analyses for this species.

The Committee considers there is insufficient information with which to assess the species under this criterion.

Conservation Actions

Recovery Plan

There is an existing decision to have a recovery plan for the swift parrot. The first national recovery plan was adopted in 2002. A revised recovery plan was made in 2011 (Saunders & Tzaros 2011). At the time that the revised recovery plan was made, the threat to swift parrots from sugar gliders was not known. The current recovery plan should be updated to include measures to reduce the impact from sugar gliders.

Primary Conservation Action

Ongoing habitat loss, particularly within the primary breeding areas in Tasmania, represents the single biggest threat to the survival of the swift parrot in the wild, particularly as it now appears to enhance nest predation by introduced sugar gliders. The primary conservation action for swift parrots is, therefore, to prevent further habitat destruction from land clearance, grazing and forestry activities in high quality swift parrot summer nesting and breeding habitat.

Conservation and Management Priorities

- Review and update management prescriptions for swift parrots for use in the Forest Practices System and Local Government land use planning and approvals processes across the breeding and non-breeding range of swift parrots.

- Revise and update forestry prescriptions to reflect the most recent habitat information available in Victoria and New South Wales.

- Develop and implement strategies to reduce predation from sugar gliders when circumstances require.

- Consider installing nesting boxes suitable for swift parrots in areas of low sugar glider predation to enhance swift parrot breeding success

- Continue to raise public awareness of the risks of collisions and how these can be minimised, targeting known high risk areas such as the greater Hobart, Melbourne and Western Sydney areas, and the central coast region of New South Wales (Wyong, Gosford, Lake Macquarie and Penrith Local Government areas).

- Encourage and support the protection, conservation management and restoration of swift parrot nesting and foraging habitat through agreements with landowners, incentive programs and community projects.

- Develop and implement a Disease Risk Assessment for swift parrots.

Survey and Monitoring priorities

- Develop an effective population monitoring program.

- Undertake monitoring of breeding locations on an annual basis to develop a better understanding of breeding success; the extent and number of important breeding areas; and the relative importance of non-aggregated breeding behaviour.

- Establish a process for the coordination of volunteer surveys throughout breeding habitats to complement the existing mainland monitoring program.

- Maintain coordination of the existing long-term volunteer monitoring throughout mainland habitats.

Information and research priorities

- Prioritise conservation actions across the species range.

- Identify and map movement patterns and foraging and nesting habitat throughout the breeding range.

- Establish habitat phenology data collection in existing research and monitoring studies, analyse findings and incorporate into the recovery program.

- Establish and maintain a database for all reported injuries and deaths.

- Monitor the incidence of competition from aggressive honeyeaters, as well as introduced birds and invertebrates, for nesting and foraging resources.

- Undertake research on breeding success, survival and mortality, as well as genetic structure, to provide insight into currently unknown population regulation parameters.

- Update the PVA using data obtained from the above research to provide a greater understanding of the dynamics and long-term viability of the population.

- Investigate the potential impact of climate change on the swift parrot and its habitat.

Recommendations

(i)   The Committee recommends that the list referred to in section 178 of the EPBC Act be amended by **transferring** from the Endangered category to the Critically Endangered category:

   Lathamus discolor

(ii)   The Committee recommends that the current recovery plan should be retained and updated.

Threatened Species Scientific Committee

01/03/2016

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