Australian Government
Department of the Environment

SWIFT PARROT RECOVERY PLAN REVIEW

Date: April 2017

Title of the Recovery Plan being reviewed: *National Recovery Plan for the Swift Parrot (Lathamus discolor)*

Type of Recovery Plan being reviewed (i.e. adopted/made/jointly made): Adopted

Author of Recovery Plan (i.e. state/territory/Commonwealth): Debbie Saunders and Chris Tzaros (Swift Parrot Recovery Team)

Officer/Section undertaking Recovery Plan review: Ashley Leedman (MFSC)

Review Recommendation:

☐ Made/adopted Recovery Plan should be retained OR
☐ Made/adopted Recovery Plan should be varied (TSSC needs to be advised and must provide advice on any recommendation to vary)
☒ Made/adopted Recovery Plan should be replaced with a new plan

Reason (*select one*):

☐ The made/adopted Recovery Plan, and its objectives and actions, remain appropriate to the recovery of the entity and the Recovery Plan should be retained until it is no longer in force (i.e. at such time as it sunsets under the *Legislation Act 2003*).
☒ There is significant new information, or the conservation status of the entity has changed, therefore the made/adopted Recovery Plan should be varied (seeking advice from the TSSC), or replaced with a new plan, to reflect needed changes to the information contained within.

*Briefly outline the key factor(s) and reason(s) selected for the above recommendation for whether to **retain or vary or replace** the Recovery Plan.*

Recent modelling suggests that swift parrot numbers are declining due to the combined effects of nest predation by sugar gliders and the ongoing loss of old growth forest within their breeding habitat. The primary conservation actions to reverse the trajectory of decline for this species are:

- To prevent further habitat destruction from land clearance, grazing and forestry activities in high quality swift parrot summer nesting and breeding habitat.
- Develop and implement strategies to reduce predation from sugar gliders.

At the time of writing the recovery plan the sugar glider threat was not recognised and as such the plan is notably lacking any recovery actions to address this threat. Therefore, it is recommended that a new recovery plan be developed for this iconic species.

EVALUATION OF RECOVERY PLAN OBJECTIVES

Overall objective	**Comments**	Action status	Action effectiveness
To prevent further population decline of the swift parrot and to achieve a demonstrable sustained improvement in the quality and quantity of swift parrot habitat to increase carrying capacity.	Objective has not been achieved. There have been ongoing declines in the number of mature individuals and in the area and quality of habitat available for the species, including clearing of breeding habitat.	☐ *Not commenced* ☒ *Minimal progress* ☐ *Some progress* ☐ *Completed* ☐ *Ongoing*	☐ *No longer a priority* ☐ *Continue - Low priority* ☐ *Continue - Med priority* ☒ *Continue - High priority*
Specific objectives/recovery criteria/strategies	**Comments**		
To identify and prioritise habitats and sites used by the species across its range, on all land tenures.	Understanding has been improved regarding the habitat features associated with breeding but only limited progress has been made on improving the understanding of non-breeding foraging habitat on the mainland.	☐ *Not commenced* ☐ *Minimal progress* ☒ *Some progress* ☐ *Completed* ☐ *Ongoing*	☐ *No longer a priority* ☐ *Continue - Low priority* ☐ *Continue - Med priority* ☒ *Continue - High priority*
To implement management strategies to protect and improve habitats and sites on all land tenures.	Progress has been made in developing forestry management protocols in the breeding areas, and integrating these into FPA regulations, but issues remain with their implementation. Limited work across other jurisdictions focussing specifically on swift parrot habitat management.	☐ *Not commenced* ☐ *Minimal progress* ☒ *Some progress* ☐ *Completed* ☐ *Ongoing*	☐ *No longer a priority* ☐ *Continue - Low priority* ☐ *Continue - Med priority* ☒ *Continue - High priority*
To monitor and manage the incidence of collisions, competition and Beak and Feather Disease (BFD).	Some work done on monitoring and managing the threat from collisions, competition and BFD. However, work on these threats not prioritised as there overall impact on the species survival is considered minimal as comparted to habitat loss and the impacts from sugar glider predation.	☐ *Not commenced* ☐ *Minimal progress* ☒ *Some progress* ☐ *Completed* ☐ *Ongoing*	☐ *No longer a priority* ☒ *Continue - Low priority* ☐ *Continue - Med priority* ☐ *Continue - High priority*
To monitor population trends and distribution throughout the range.	Trend information remains uncertain, as there are no empirical estimates of population size. Based on PVA modelling, it is presumed the population is declining, but this has not been confirmed by population size data. Good progress has been made in advancing our understanding of the use of breeding habitat, and how this varies between years. Monitoring of the non-breeding habitat has been ongoing, although poorly resourced.	☐ *Not commenced* ☐ *Minimal progress* ☒ *Some progress* ☐ *Completed* ☐ *Ongoing*	☐ *No longer a priority* ☐ *Continue - Low priority* ☐ *Continue - Med priority* ☒ *Continue - High priority*

EVALUATION OF RECOVERY PLAN ACTIONS

Use this table to summarise the evaluation of the implementation of recovery actions and their effectiveness in contributing to achievement of the objectives of the Recovery Plan.

Actions	Summary of activities/achievements/outcomes and any issues that arose	Action status	Action effectiveness
1. Identify the extent and quality of habitat.	*(Performance criteria as identified in the Recovery Plan)*		
1.1 Identify and map foraging and nesting habitat throughout the breeding range and prioritise sites.	*Annual monitoring program undertaken to determine breeding distribution under different climatic conditions.* *Mapping and update report on distribution of nesting habitats and prioritisation completed annually. Report disseminated to relevant natural resources management and land-use planning and approvals bodies in Tasmania.* *Assessment of habitat loss since 1996 and pre-1760 determined for potential nesting and foraging habitat.* • Annual breeding site monitoring has been undertaken by ANU since 2009 and results provided to relevant agencies. Has provided a good understanding of key breeding areas. Currently funded to 2017. • Some work undertaken on assessment of habitat loss where information is available, resulting in regional level output for some areas.	☐ *Not commenced* ☐ *Minimal progress* ☒ *Some progress* ☐ *Completed* ☒ *Ongoing*	☐ *No longer a priority* ☐ *Continue - Low priority* ☐ *Continue - Med priority* ☒ *Continue - High priority*
1.2 Identify and map foraging and roosting habitat			
1.2a Identify and map foraging habitat throughout the range of the species:	*GIS mapping on foraging habitats and priority sites throughout the range of the species provided to DSEWPaC and each relevant local government and CMA by Year 3.* *Review, and if necessary update, mapping by Year 5.* • Annual volunteer surveys organised and records database maintained by Birdlife. Unfunded work since 2013. • Work undertaken in lower Hunter Region to map foraging habitat. In 2005 there was an attempt to compile all habitat mapping for the species across their mainland distribution. This work is still required since it provides baseline data on losses experienced to date as well as the % remaining, and the ongoing rate of loss. All important metrics for determining the adequacy of habitat for the species. • Indications from previous inundations by the population to very small, restricted habitats emphasises the potential for winter habitat resources to be a limiting factor in terms of population viability. • OEH planning Department have highlighted the need for habitat mapping data to be combined with swift parrot records within the winter range to inform planning processes which currently result in impacts on swift parrot being largely overlooked	☐ *Not commenced* ☐ *Minimal progress* ☒ *Some progress* ☐ *Completed* ☒ *Ongoing*	☐ *No longer a priority* ☐ *Continue - Low priority* ☒ *Continue - Med priority* ☒ *Continue - High priority*

	• For the mainland this remains important since accurate mapping is needed for informing management decisions, such as for guiding environmental offsets and minimising impacts from development. • While this action is still considered important, it is lower in priority than the habitat monitoring in Tasmania as there is no evidence of resource constraints on the mainland.		
1.2b Identify and map roosting habitat throughout the range of the species with an emphasis on communal and repeatedly used roosting sites.	*GIS mapping on communal and repeatedly used roosting sites throughout the range of the species provided to DSEWPaC and each relevant local government and CMA by Year 5.* • No work specially undertaken on 'roosting sites', and therefore their importance remains undocumented • There are distinct differences between roosting and foraging habitat. Mass roosting sites provide key communication avenues for the species during adverse conditions and also make the population more vulnerable to other impacts such as from predation. • Future plans should focus on 'priority habitat' and not distinguish whether it is roosting or foraging	☒ *Not commenced* ☐ *Minimal progress* ☐ *Some progress* ☐ *Completed* ☐ *Ongoing*	☐ *No longer a priority* ☒ *Continue - Low priority* ☐ *Continue - Med priority* ☐ *Continue - High priority*
1.2c Establish habitat phenology data collection in existing research and monitoring studies, analyse findings and incorporate into recovery program.	*Consult with phenology experts on the most effective and economic way to collect useful habitat phenology data relevant to Swift Parrot habitat use by Year 3.* *Incorporate the collection of habitat phenology data in all relevant recovery program research and monitoring studies by Year 3.* *Analyse and incorporate findings into recovery program.* • Work being undertaken by ANU in investigate how flowering phenology relates to breeding in Tasmania. Important to help predict where nesting may occur. • Project being developed by ANU to develop a habitat phenology project using drones to get data at correct relevant scale which could be undertaken across the breeding and foraging range, and related to satellite imagery to enable broad scale and predictive nectar mapping..	☐ *Not commenced* ☐ *Minimal progress* ☒ *Some progress* ☐ *Completed* ☒ *Ongoing*	☐ *No longer a priority* ☐ *Continue - Low priority* ☐ *Continue - Med priority* ☒ *Continue - High priority*
1.3 Identify and map movement patterns throughout the range of the species.	*GIS mapping on movement patterns throughout the range of the species, provided to DSEWPaC and each relevant local government and CMA by Year 5.* • Work on movement patterns being undertaken in Tasmania. Mapping being undertaken and provided to relevant authorities, but not at the scale of local government areas or CMAs. • Previously little progress in determining movement patterns across mainland Australia, however there is currently a radio-tracking project to provide the first insights into the spatial ecology of winter foraging movements within the Riverina NSW in 2017/18. OEH have highlighted the urgent need for data on spatial ecology within the winter range to inform planning processes. • Difficult to determine migration patterns as it is not possible to undertake long-term tracking on swift parrots	☐ *Not commenced* ☐ *Minimal progress* ☒ *Some progress* ☐ *Completed* ☐ *Ongoing*	☐ *No longer a priority* ☐ *Continue - Low priority* ☒ *Continue - Med priority* ☐ *Continue - High priority*

2. Manage and protect Swift Parrot habitat at the landscape scale.			
2.1a 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. Relevant on-ground actions include (but are not limited to): *• Retaining and expanding mature and mixed age habitat and protecting and managing it by fencing and providing a buffer zone from disturbances.* *• Enabling natural regeneration by fencing off and managing remnant vegetation and buffer zones to control grazing and other impacts caused by uncontrolled access (such as in urban areas). Re-vegetating areas and connecting remnant habitats by planting feed and nest tree species, fencing them off and managing them, where natural regeneration is not possible.* *Ongoing management of all the above fenced off areas would also be required, including pest, weed and fire management.*	*At least 5 incentive projects established each year for the protection, restoration or conservation management of Swift Parrot habitat.* *At least 5 conservation/management agreements initiated on private properties with Swift Parrot habitat by Year 5.* *At least 5 community project applications submitted for funding each year for the protection, restoration or conservation management of Swift Parrot habitat.* *Reports on the protection, restoration and management of Swift Parrot habitat provided at recovery team meetings.* • Protection and conservation management within the breeding areas are largely managed by the Tasmanian Government, through legislative requirements administered through the forest practices system. • Tasmanian Land Conservancy have covenanted several private properties with swift parrot habitat. • Limited reporting makes it difficult to fully assess the outcomes of this action against the 'Performance Criteria'. • Outcomes of action difficult to measure in terms of impact on swift parrot population over the lifetime of a recovery plan (5-10 years)	☐ *Not commenced* ☐ *Minimal progress* ☒ *Some progress* ☐ *Completed* ☐ *Ongoing*	☐ *No longer a priority* ☒ *Continue - Low priority* ☐ *Continue - Med priority* ☐ *Continue - High priority*

2.1b Provide recommendations for the revision and update of forestry prescriptions to reflect the most recent habitat information available in Victoria and New South Wales.	*Provide recommendations for revision of prescriptions for Swift Parrots when forestry licence agreements are due for renewal in each state.* • No clear pathway for recommendations for revision of forestry practices in NSW and Victoria to translate into on-ground changes. Recommendations have been provided but ignored. Requires legislative changes.	☐ *Not commenced* ☐ *Minimal progress* ☒ *Some progress* ☐ *Completed* ☒ *Ongoing*	☐ *No longer a priority* ☐ *Continue - Low priority* ☒ *Continue - Med priority* ☐ *Continue - High priority*
2.1c Develop a strategic management plan for Swift Parrot breeding habitat in Tasmania. Strategic management plan for Swift Parrot to include landscape and operational level planning guidelines and prescriptions for protection of important breeding habitat. Review and update management prescriptions for Swift Parrots for use in the Forest Practices System and Local Government landuse planning and approvals processes in Tasmania.	*Threatened Fauna Advisory reviewed and updated to reflect new information and recognised threats.* *Strategic management plan for Swift Parrot prepared and endorsed by stakeholders.* *A set of management prescriptions for landscape level planning and operation or development level application prepared and endorsed for use by stakeholders.* *Spatial data on the known and predicted occurrence of foraging and nesting resources, and important breeding areas prepared and disseminated to relevant stakeholders including Forest Practices Authority, Natural Resource Management regions and Local Governments.* • The Strategic Management Plan for swift parrot breeding habitat has not been completed. A draft of the plan was produced and is currently being revised. • The FPAs Threatened Fauna Adviser has been updated and prescriptions for the swift parrot have been revised and endorsed for use for activities covered by the Tasmanian Forest Practices System. • A comprehensive review carried out by an interagency group which included DPIPWE, FT, PFT, FPA and independent species specialists resulted in the development of the 'Swift Parrot Interim Planning Guideline (2010)' for the conservation management of the Swift Parrot in areas regulated under the Tasmanian Forest Practices System. This guideline covered some of the issues relating to forest practices and a proposed management approach. A further review of the 'risks' was subsequently undertaken as part of the Threatened Fauna Adviser review in 2012, and included a chapter in Background document 2 on the swift parrot. The Swift Parrot Interim Planning Guideline (2010) was used in the development of the species range maps and management zoning, habitat descriptions (delivered through the FPA's Biodiversity Values Database and NVA) and the Threatened Fauna Adviser recommended actions which were endorsed for use through the forest practices system, by the FPA Board and Secretary of DPIPWE (following the Agreed Procedures) in 2014. • In 2015 Forestry Tasmania declared a moratorium on forest harvesting of swift parrot habitat on Bruny Island for three years. In light of the recent research findings [projected decreases in numbers resulting from sugar glider predation], and the change in listing status under the EPBC Act, the Forest Practices Authority is considering	☐ *Not commenced* ☐ *Minimal progress* ☒ *Some progress* ☐ *Completed* ☒ *Ongoing*	☐ *No longer a priority* ☐ *Continue - Low priority* ☐ *Continue - Med priority* ☒ *Continue - High priority*

	– Ensuring implementation of the Threatened Fauna Adviser recommended actions to the full in areas where the swift parrot is at highest risk from forest practices as determined through the planning tools. – Application of the Forest Practices Code's Duty of Care provision at a larger forest management unit scale on Permanent Timber Production Zone Land.		
2.1d Provide Swift Parrot conservation information for consideration during the New South Wales/ Local Government/ Local Environmental Planning (LEP) review process.	• Swift Parrot conservation information provided to at least three key Local Government Areas for consideration during the LEP review process. • Lower Hunter Strategic Assessment Sustainable Regional Development research grant was been provided to Lake Macquarie City Council to help inform land use planning. • Recommendations may have been provided but no processes developed to track advice or measure the outcomes of the advice.	☐ *Not commenced* ☐ *Minimal progress* ☒ *Some progress* ☐ *Completed* ☐ *Ongoing*	☐ *No longer a priority* ☐ *Continue - Low priority* ☒ *Continue - Med priority* ☐ *Continue - High priority*
2.2 Monitor and manage for climate change			
2.2a Establish a climate change monitoring program to provide a basis for future adaptive conservation management.	*Swift Parrot monitoring sites identified and established in association with climate monitoring stations throughout the range of the species to provide a basis for adaptive climate change conservation management plans.* • Action not commenced as other actions considered a higher priority. • This action may be relevant again once action 2.2b has been undertaken and we have some insights into the impacts of climate change on habitat availability.	☒ *Not commenced* ☐ *Minimal progress* ☐ *Some progress* ☐ *Completed* ☐ *Ongoing*	☒ *No longer a priority* ☐ *Continue - Low priority* ☐ *Continue - Med priority* ☐ *Continue - High priority*
2.2b Investigate the potential impact of climate change on the Swift Parrot and its habitat.	*Spatial and temporal climate change models produced for the Swift Parrot based on species records, habitat mapping and bio-climatic models throughout the range of the species.* *Review the potential influence of climate change on the species and identify future management strategies to address this issue.* • Some work has been undertaken looking at the impacts of climate change on breeding habitat (e.g., Porfirio et al 2016, Emu) • NSW Saving our Species project will be examining shifting habitat suitability due to climate change. • Outcomes of this work will have implications for targeting conservation measures as habitat phenology is already changing and the birds are already responding. • This may become a high priority since targeted conservation measures are currently being based on existing information and if shifts in habitat suitability are ignored this will potentially result in wasted effort and precious resources.	☐ *Not commenced* ☐ *Minimal progress* ☒ *Some progress* ☐ *Completed* ☐ *Ongoing*	☐ *No longer a priority* ☐ *Continue - Low priority* ☐ *Continue - Med priority* ☒ *Continue - High priority*

3. Monitor and manage the incidence of collisions, competition and diseases.			
3.1 Monitor and manage the incidence of collisions			
3.1a Establish and maintain a database for all reported injuries and deaths.	*Collision database established.* *Ongoing maintenance of collision database as a component of the Swift Parrot Recovery Program database.* *Report on number and type of collisions throughout the range of the species at recovery team meetings annually.* • Collision data has been collected incidentally and is difficult to track as it varies from year to year depending on the species distribution. Collision impact is an occasional threat but can have considerable consequences, however there is little that can be done about this. • There is a collision prevention document developed by WWF which can be distributed	☐ *Not commenced* ☒ *Minimal progress* ☐ *Some progress* ☐ *Completed* ☐ *Ongoing*	☒ *No longer a priority* ☐ *Continue - Low priority* ☐ *Continue - Med priority* ☐ *Continue - High priority*
3.1b Continue to raise public awareness of the risks of collisions and how these can be minimised. Awareness campaigns to target 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).	*Produce and distribute a further 5000 copies of the collision prevention brochure.* *Produce at least two media releases per year on collision prevention for public awareness in high risk areas.* • Awareness raising ongoing, but difficult to implement tangible actions, gather data and evaluate success. • There is a collision prevention document developed by WWF which can be distributed	☐ *Not commenced* ☐ *Minimal progress* ☒ *Some progress* ☐ *Completed* ☐ *Ongoing*	☐ *No longer a priority* ☒ *Continue - Low priority* ☐ *Continue - Med priority* ☐ *Continue - High priority*
3.1c Develop and distribute guidelines on collision risk management to relevant planning authorities.	*Guidelines on collision risk management distributed to relevant state/territory governments, as well as local governments, NRMs and CMAs in high risk areas by Year 3.* • Minimal progress. Not considered a priority as uncertain benefits. • Guidelines have been developed by WWF and can be distributed (these three actions could be combined into one)	☐ *Not commenced* ☒ *Minimal progress* ☐ *Some progress* ☐ *Completed* ☐ *Ongoing*	☐ *No longer a priority* ☒ *Continue - Low priority* ☐ *Continue - Med priority* ☐ *Continue - High priority*

3.2 Monitor the incidence of competition from large aggressive honeyeaters as well as introduced birds and bees for nesting and foraging resources.	*Establishment of monitoring program to determine the extent of competition from larger aggressive honeyeaters as well as introduced birds and bees for nesting and foraging resources, to inform management.* • Harassment by large aggressive honeyeaters not considered a significant issue in Tasmania. Evidence of harassment on the mainland, but impacts unknown. Not considered a significant threat.	☐ *Not commenced* ☒ *Minimal progress* ☐ *Some progress* ☐ *Completed* ☐ *Ongoing*	☐ *No longer a priority* ☐ *Continue - Low priority* ☒ *Continue - Med priority* ☐ *Continue - High priority*
3.3 Develop and implement a Psittacine Beak and Feather Disease management protocol.	*PBFD monitoring protocol developed based on the DSEWPaC PBFD Threat Abatement Plan and distributed to all fauna rescue and State conservation organisations by Year 4. Protocol to include rescue and quarantine housing requirements for rehabilitated birds. All rehabilitated birds tested for PBFD prior to release.* *Details of the number of rehabilitated birds and their disease tests reported annually at recovery team meetings.* *Test all deceased specimens of Swift Parrots for PBFD.* • Unpublished data on PBFD suggests that disease prevalence is extremely low for swift parrots. It would be good to have this officially reported so that changes in disease prevalence over time can be monitored. As the population in subjected to increasing levels of stress they can become more susceptible to disease.	☐ *Not commenced* ☐ *Minimal progress* ☒ *Some progress* ☐ *Completed* ☐ *Ongoing*	☐ *No longer a priority* ☒ *Continue - Low priority* ☐ *Continue - Med priority* ☐ *Continue - High priority*
4. Monitor population and habitat.			
4.1 Develop and implement an effective population monitoring program during the breeding season			
4.1a Develop an effective population monitoring program during the breeding season.	*Effective population monitoring program developed and implemented.* • Program developed and being implemented. Program currently funded through offset until 2020.	☐ *Not commenced* ☐ *Minimal progress* ☐ *Some progress* ☐ *Completed* ☒ *Ongoing*	☒ *No longer a priority* ☐ *Continue - Low priority* ☐ *Continue - Med priority* ☐ *Continue - High priority*
4.1b Undertake monitoring of breeding distribution on an annual basis to develop a better understanding of the extent and number of important breeding areas in Tasmania and the relative importance of non-aggregated breeding behaviour	*Breeding distribution maps produced following each breeding season.* *New and reviewed information published annually and included in the strategic management plan for the Swift Parrot* • Breeding distribution maps produced following each breeding season. Funding expires in 2017. Being used to help swift parrot management but not through the strategic management plan as plan not completed.	☐ *Not commenced* ☐ *Minimal progress* ☐ *Some progress* ☐ *Completed* ☒ *Ongoing*	☐ *No longer a priority* ☐ *Continue - Low priority* ☐ *Continue - Med priority* ☒ *Continue - High priority*

to conservation of the Swift Parrot.			
4.2 Collect and analyse information on population dynamics and viability			
4.2a Undertake research on breeding success, survival and mortality, as well as genetic structure to provide insight into currently unknown population regulation parameters.	*Establishment of an ongoing research and monitoring program investigating nesting distribution and success by Year 3.* *Proportions of flocks containing juveniles throughout the winter range reported annually at recovery team meetings and on the web page.* • Comprehensive work undertaken on breeding success, survival and mortality over the last several seasons. Funding to end in 2017.Several papers published and more being developed.	☐ *Not commenced* ☐ *Minimal progress* ☐ *Some progress* ☐ *Completed* ☒ *Ongoing*	☐ *No longer a priority* ☐ *Continue - Low priority* ☐ *Continue - Med priority* ☒ *Continue - High priority*
4.2b Conduct population viability analysis (PVA) using data obtained from above research to provide a greater understanding of the dynamics and long-term viability of the population.	*PVA conducted by Year 5, following the acquisition of essential population data.* • PVA developed by ANU showing significant declines in swift parrot numbers as a result of sugar glider predation, but need further development to: a) incorporate current efforts to improve breeding, and b) improve models to reflect dynamics of flowering and sugar glider populations. • ANU developed PVA used as the basis for the 2016 EPBC listing re-assessment.	☐ *Not commenced* ☐ *Minimal progress* ☐ *Some progress* ☐ *Completed* ☒ *Ongoing*	☐ *No longer a priority* ☐ *Continue - Low priority* ☐ *Continue - Med priority* ☒ *Continue - High priority*
4.3 Establish and maintain coordination of volunteer surveys			
4.3a Establish coordination of volunteer surveys throughout breeding habitats to complement existing mainland monitoring program.	*Volunteer coordinator position established by Year 3 and maintained on an ongoing basis.* *Annual volunteer surveys conducted, survey results compiled and provided on web page, in newsletters and at recovery team meetings.* • Volunteer surveys of breeding habitat of limited value and results not publicly available. Systematic breeding season surveys undertaken as part of ANU research, and funded through grant money.	☒ *Not commenced* ☐ *Minimal progress* ☐ *Some progress* ☐ *Completed* ☐ *Ongoing*	☐ *No longer a priority* ☒ *Continue - Low priority* ☐ *Continue - Med priority* ☐ *Continue - High priority*
4.3b Maintain coordination of the existing long-term volunteer monitoring throughout mainland habitats.	*Existing volunteer coordinator position maintained on an ongoing basis. Bi-annual volunteer surveys conducted across eastern Australia, survey results compiled and provided on web page, in newsletters and at recovery team meetings.* • Surveys being coordinated by Birdlife. Currently unfunded, which limits capacity to compile results and facilitate access. Surveys are a valuable source of information and are provide essential data on the species' changing use of habitat over time.	☐ *Not commenced* ☐ *Minimal progress* ☐ *Some progress* ☐ *Completed* ☒ *Ongoing*	☐ *No longer a priority* ☐ *Continue - Low priority* ☐ *Continue - Med priority* ☒ *Continue - High priority*

5.1 Provide advice, education and support to volunteers, community members, landowners, local governments and regional NRM organisations (includes presentations and workshops).	*Summary of community and landowner information and education program implementation across the range of the species provided at recovery team meetings.* *At least one full day community education and awareness workshop held each year.* *At least 5 presentations to interest groups each year.* *Information distributed to all relevant regional NRM organisations at least twice a year to keep them informed of the recovery program.* *Swift Parrot information produced and distributed to community groups, management agencies, schools and other education institutions on request.* • Community engagement frequently occurs as an unofficial part of the breeding season monitoring activities. (e.g., community nest box building project) • Across the mainland this is integrated into woodland bird workshops undertaken by BirdLife and other NGOs, and workshops will be undertaken in 2 regions under the new NSW SOS project.	☐ *Not commenced* ☐ *Minimal progress* ☐ *Some progress* ☐ *Completed* ☒ *Ongoing*	☐ *No longer a priority* ☐ *Continue - Low priority* ☒ *Continue - Med priority* ☐ *Continue - High priority*
5.2 Assess the level of indigenous interest in the recovery program by consulting relevant indigenous people and organisations that occur within the species' range.	*Indigenous representatives from throughout the species range consulted to gauge their level and type of interest in the recovery program. Consultation to commence in Year 4. Given the large number of potential indigenous groups and people to consult, this process would be incremental throughout the recovery program. Updates on consultation and interest to be provided at each recovery team meeting.* *Indigenous parties identified as having interest in the program are included in the recovery program mailing list.* *Interested indigenous parties consulted to determine what involvement they would like to have, and if there is any relevant traditional knowledge available on the species or its habitats, should it be appropriate to document this knowledge for recovery program purposes.* • This is happening on Bruny Island (Murrayfield), as an incidental part of the breeding monitoring program. • Attempts to identify interested Aboriginal groups on the mainland have been less successful, but action limited by lack of funds for proper implementation.	☐ *Not commenced* ☐ *Minimal progress* ☒ *Some progress* ☐ *Completed* ☒ *Ongoing*	☐ *No longer a priority* ☐ *Continue - Low priority* ☒ *Continue - Med priority* ☐ *Continue - High priority*
5.3 Produce and distribute the annual recovery program newsletter Swifts Across the Strait.	*Newsletters produced and distributed to recovery program volunteers, community groups and NRM organisations each year.* • 'Swifts across the Strait' no longer produced due to lack of funding. • Birdlife continue to provide at least two brief newsletter updates per year, incorporating sightings maps.	☐ *Not commenced* ☐ *Minimal progress* ☒ *Some progress* ☐ *Completed* ☐ *Ongoing*	☐ *No longer a priority* ☐ *Continue - Low priority* ☒ *Continue - Med priority* ☐ *Continue - High priority*

5.4 Develop a Swift Parrot Recovery Program web page providing access to recovery plans, audio and visual identification information, survey forms, links with other conservation programs and on-line volunteer survey data entry.	*Web page designed and established on the internet by Year 3.* *Web page reviewed, and if necessary, updated annually.* • Recovery team website not built. • BirdLife has several pages on their website related to Swift Parrots and discussions are occurring at present to incorporate data entry into BirdLife's new bird data portal – http://www.birdlife.org.au/bird-profile/swift-parrot – http://birdlife.org.au/projects/woodland-birds-for-biodiversity – Also profile pages on each govt web page	☐ *Not commenced* ☐ *Minimal progress* ☒ *Some progress* ☐ *Completed* ☐ *Ongoing*	☐ *No longer a priority* ☐ *Continue - Low priority* ☒ *Continue - Med priority* ☐ *Continue - High priority*
6. Coordinate, review and report on recovery process.			
6.1 Maintain a recovery team that effectively organises, implements, reviews and reports on the recovery outcomes.	*Volunteer program coordinators (Tasmania, Victoria, New South Wales), and breeding researchers (Tasmania) employed each year to implement recovery actions.* *Recovery team meetings held and minutes produced bi-annually, with the location allocated on a rotational basis between the range States.* *Recovery outcomes and resultant changes to recovery program reported bi-annually.* • Recovery team meetings initially held regularly. Team had a hiatus for 18 months, and was then re-formed and new 'Terms of Reference' agreed. • No mechanism developed to record 'actions' undertaken as part of the implementation of the recovery plan, making reporting of outcomes difficult and incomplete.	☐ *Not commenced* ☐ *Minimal progress* ☐ *Some progress* ☐ *Completed* ☒ *Ongoing*	☐ *No longer a priority* ☐ *Continue - Low priority* ☐ *Continue - Med priority* ☒ *Continue - High priority*
6.2 Develop and manage a central database for all data collected as part of the recovery program.	*Swift Parrot recovery database (SPRD) developed and made accessible for on-line data entry on recovery program web page by Year 3.* *SPRD maintained and updated annually.* *All Swift Parrot records from SPRD provided to relevant Commonwealth, state and territory government departments and BirdLife Australia on an annual basis for inclusion in their respective atlas databases.* • Unclear what data would need including in a central database and how it would be used. • Data collected as part of swift parrot research remains the property of the collection agency (or funding agency), unless they have enacted data-sharing agreements. • As Recovery Teams are generally unfunded or have only intermittent funding, they are arguably not the best body to maintain an active data-base with potentially significant volumes of data.	☒ *Not commenced* ☐ *Minimal progress* ☐ *Some progress* ☐ *Completed* ☐ *Ongoing*	☐ *No longer a priority* ☒ *Continue - Low priority* ☐ *Continue - Med priority* ☐ *Continue - High priority*

SECONDARY CONSIDERATIONS – CAPACITY OF THE DEPARTMENT AND KEY STAKEHOLDERS TO VARY THE PLAN/PREPARE A NEW PLAN

Supporting questions for consideration	Notes on whether and how this factor justifies the need for a variation of the Recovery Plan?
1. Is varying/replacing the Recovery Plan for this entity a priority for allocation of resources?	Yes, the swift parrot is a high profile species with a declining population trajectory, and is also one of the priority species identified in the Australian Government's Threatened Species Strategy. Updating the recovery plan was identified as a priority in the recent uplisting advice.
2. Is there a capacity and willingness by jurisdictions or other relevant parties to contribute to the development of a varied/new Recovery Plan?	There is an active recovery team for the swift parrot, which includes representatives from all the range states, Birdlife Australia, the Australian National University and experts. This team is committed to helping update the recovery plan.
3. Are there any other factors relevant to the Recovery Plan review not included above? If so, describe the factors? Such as: • changes in conservation trajectory? • contribution of Recovery Plan to changes in conservation trajectory? • any emerging threats that need to be recognised in a varied/new Recovery Plan? • any new recovery actions that need to be recognised in a varied/new Recovery Plan?	*Changes to the conservation trajectory*: The swift parrot was uplisted to Critically Endangered in May 2016, following evidence of significant population declines as a result of nest predation in this species breeding range. *Emerging threats*: When the current recovery plan for the species was developed the threat of nest predation by sugar gliders was not recognised. Sugar glider nest predation across the breeding range of the swift parrot in Tasmania, in combination with ongoing loss primary breeding areas, has since emerged as the greatest threat to the survival of the species. This threat is thought to have contributed to significant population declines in recent years, with Population Viability Analysis modelling suggesting declines of >80% are expected within a three generation period (DotE, 2016). Sugar gliders have been found to destroy up to half of the eggs on the Tasmanian mainland but are not found on offshore islands. Predation risk varies dramatically across the breeding range of swift parrots, depending on the presence of sugar gliders. Swift parrots rely on tree cavities for nesting and the availability within the habitat range is limited by the amount of mature forest with trees capable of providing these cavities. Tree cavities suitable for wildlife, including the swift parrot, are rare in the landscape in Tasmania. Predictions of future population decrease due to sugar glider predation, demonstrate that the remaining swift parrot population is likely to decrease by 78.8–94.7% over only three generations (12–18 years). *New recovery actions:* New recovery actions need to be developed to manage predation by sugar gliders on sitting females and nestlings. New actions also need to be considered to enhance reproductive success on sugar glider free islands to help offset the losses occurring when the females nest on the mainland.

REFERENCES

Department of the Environment (DotE) (2016). Conservation Advice: *Lathamus discolor* (swift parrot). Department of the Environment, Canberra, Australia. Available on the internet at: http://www.environment.gov.au/biodiversity/threatened/species/pubs/744-conservation-advice-05052016.pdf.

Forest Practices Authority webpages:

- Agreed procedures: http://www.fpa.tas.gov.au/__data/assets/pdf_file/0009/110151/FPA_and_DPIPWE_agreed_procedures_2014.pdf
- Biodiversity evaluation sheets: http://www.fpa.tas.gov.au/fpa_services/planning_assistance/advisory_planning_tools/biodiversity_evaluation_sheet
- Biodiversity Values Database: http://www.fpa.tas.gov.au/fpa_services/planning_assistance/advisory_planning_tools/Biodiversity_values_database
- Fauna Technical Notes: http://www.fpa.tas.gov.au/fpa_services/planning_assistance/advisory_planning_tools/fauna_technical_notes
- Threatened Fauna Advisor: http://www.fpa.tas.gov.au/fpa_services/planning_assistance/advisory_planning_tools/threatened_fauna_advisor
- Threatened Fauna Advisor Review: http://www.fpa.tas.gov.au/research_and_monitoring/fpa_special_projects/threatened_fauna_review
- Swift Parrot Interim Planning Guideline: http://www.fpa.tas.gov.au/research_and_monitoring/fpa_special_projects/draft_swift_parrot_planning_guideline