Australian Government

Department of the Environment and Energy

Australian National Report to the 18th JAMBA, 12th CAMBA and 5th ROKAMBA Consultative Meetings

Cairns, Queensland, Australia
25 to 28 October 2016

Agreement between the Government of Australia and the Government of Japan for the Protection of Migratory Birds and Birds in Danger of Extinction and their Environment Eighteenth Consultative Meeting

and the

Agreement between the Government of Australia and the Government of the People's Republic of China for the Protection of Migratory Birds and their Environment Twelfth Consultative Meeting

and the

Agreement between the Government of Australia and the Government of the Republic of Korea on the Protection of Migratory Birds and their Environment Fifth Consultative Meeting

Front cover: Bar-tailed Godwit (*Limosa lapponica*), Spencer Gulf, South Australia © Chris Purnell
Back cover: Ruddy turnstone walking along the rocks near a salt lake on Rottnest Island, Western Australia © Georgina Steytler

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Masked Booby (*Sula dactylatra*) chick, Lord Howe Island Groupv © Ian Hutton

Introduction

The *Environment Protection and Biodiversity Conservation Act 1999* (the EPBC Act) is the Australian Government's central piece of environmental legislation. The EPBC Act provides a legal framework to protect and manage nationally and internationally important flora, fauna, ecological communities and heritage places—defined in the EPBC Act as matters of national environmental significance.

Migratory species listed under the EBPC Act are also matters of national environmental significance. Migratory species are those animals that migrate to Australia and its external territories, or pass though or over Australian waters during their annual migrations. Examples of migratory species are species of birds (e.g. albatrosses and petrels), mammals (e.g. whales) or reptiles (e.g. marine turtles). Listed migratory species are those listed on the appendices of the Convention on the Conservation of Migratory Species of Wild Animals (the CMS or Bonn Convention), the Japan-Australia Migratory Bird Agreement (JAMBA), the China-Australia Migratory Bird Agreement (CAMBA) and the Republic of Korea-Australia Migratory Bird Agreement (ROKAMBA).

Matters of national environmental significance are important to all Australians and, given the interconnectedness of the global biosphere, internationally as well. The EPBC Act aims to balance the protection of these crucial environmental and cultural values with our society's economic and social needs by creating a legal framework and decision-making process based on the guiding principles of ecologically sustainable development. Specifically, the EPBC Act aims to:

- provide for the protection of the environment, especially matters of national environmental significance
- conserve Australia's biodiversity
- protect biodiversity internationally by controlling the international movement of wildlife
- provide a streamlined environmental assessment and approvals process where matters of national environmental significance are involved
- protect our world and national heritage
- promote ecologically sustainable development.

All species on the list of migratory species are matters of national environmental significance under the EPBC Act. An action will require approval if the action has, will have, or is likely to have, a significant impact on a listed migratory species. The action must be referred to the Minister and undergo an environmental assessment and approval process.

For over 40 years, Australia has played an important role in international cooperation to conserve migratory birds in the East Asian - Australasian Flyway, entering into bilateral migratory bird agreements with Japan in 1974, China in 1986 and the Republic of Korea in 2006. Each of these agreements provides for the protection and conservation of migratory birds and their important habitats, protection from take or trade except under limited circumstances, the exchange of information, and building cooperative relationships.

The Australian Government recognises that habitat loss and degradation is a significant threat to many of our migratory birds, and the conservation of important sites both within Australia and along their migration routes is essential to their survival. Many pressures are contributing to this degradation, of which population growth and associated coastal development are of particular concern. The JAMBA, CAMBA and ROKAMBA provide an important mechanism for pursuing conservation outcomes for migratory birds in each country. However, efforts to conserve migratory birds in one country can only be effective with cooperation and complementary actions in all countries that these birds visit.

はじめに

1999 年環境保護・生物多様性保存法（EPBC 法）はオーストラリア政府の環境に関する法律の中核をなしています。EPBC 法は、同法により国家の環境にとって重要な対象と定義されている、国内外の重要な動植物、生体群集、自然遺産を保護、管理するための法的な枠組を提供しています。

EBPC 法の下で渡りを行うとして挙げられている動物種も国家環境にとって重要です。渡りを行う動物種とは、オーストラリアおよびオーストラリアの海外領土に渡って来る、あるいはオーストラリアの領海を毎年の渡りの際に通過する、または領海上を越えていく動物を指します。渡りを行う動物種の例としては、鳥類（例：アホウドリ、ミズナギドリ）、哺乳類（例：クジラ）、爬虫類（例：ウミガメ）が挙げられます。ここで挙げられている渡りを行う動物種は、移動性野生動物種の保全に関する条約（CMS あるいはボン条約）、日豪渡り鳥協定（JAMBA）、中豪渡り鳥協定（CAMBA）、韓豪渡り鳥協定（ROKAMBA）の付属書に挙げられている動物種です。

国家の環境にとって重要な対象は、全てのオーストラリア人にとって重要であり、さらに世界の生物圏は互いに繋がっているということを考慮すると、世界中の人々にとっても重要です。EPBC 法は、環境的に持続可能な開発の指導原則に基づいて、法的な枠組と意思決定のプロセスを整備することにより、これらの重要な環境と文化的な価値観の保護と、私達の社会の経済的および社会的なニーズとのバランスを取ることを目的としています。具体的には、EPBC 法は以下の目的を掲げています。

- 国家の環境にとって重要な対象を中心として環境保護を図る
- オーストラリアの生物多様性を保存する
- 野生動物の国境を越えた移動を管理することにより、生物多様性を国際的に保護する
- 国家の環境にとって重要な対象が関与している際には、合理的な環境評価と認定プロセスを提供する
- 私達の世界と国家遺産を保護する
- 環境的に持続可能な開発を促進する

渡りを行う動物種として目録に挙げられている動物種は全て、EPBC 法の下で、国家の環境にとって重要な対象とされています。目録に挙げられている渡りを行う動物種に重要な影響を及ぼす、あるいは及ぼす可能性のある活動については、承認を得ることが求められます。当該活動は担当大臣に照会しなくてはならず、環境評価および承認プロセスを経なくてはなりません。

40 年以上にわたりオーストラリアは、東アジア・オーストラリア地域フライウェイ内の渡り鳥の保存のための国際協力において重要な役割を果たしてきており、渡り鳥に関する二国間協定を、1974 年に日本と、1986 年に中国と、そして 2006 年に韓国と締結しました。各協定は、渡り鳥およびその重要な生息地の保護と保存、制限が課された状況以外における捕獲や取引からの保護、情報交換、協力関係の構築を図っています。

オーストラリア政府は、生息地の喪失や悪化は私達の渡り鳥にとって重要な脅威であり、オーストラリア国内および渡り鳥の渡りのルートに沿った地点を保存することは、渡り鳥が生き延びるのに不可欠であると認識しています。様々な圧力がこの悪化の要因となっており、中でも人口増加や人口増加に伴う沿岸地域開発が特に重要な懸念事項です。JAMBA、

CAMBA、ROKAMBA は、各国の渡り鳥のための保存活動に関する結果を追求するための重要な仕組を提供しています。しかし、一つの国内で渡り鳥を保存するための努力は、協力が行われ、対象となる鳥たちが訪れる国全てにおいて相互補完的な活動が行われて初めて効果を発揮することができます。

简介

《1999 年环境和生物多样性保护法案》（Environment Protection and Biodiversity Conservation Act，简称《EPBC 法案》）是澳大利亚政府环境立法的核心内容。该法案为保护和管理国内外重要的植物区系、动物区系、生态社区和自然遗产区提供了法律框架——《EPBC 法案》指出这些事项对国家环境具有重要意义。

《EPBC 法案》中列明的移栖物种也对国家环境具有重要意义。移栖物种是指迁徙到澳大利亚及澳大利亚外部领土、或在每年迁徙过程中通过或飞越澳大利亚水域的物种。移栖物种包括鸟类（如信天翁和海燕）、哺乳动物（如鲸）和爬行动物（如海龟）。法案中列明的移栖物种是指《保护野生动物迁徙物种公约》（简称 CMS 或《波恩公约》）、《日澳保护候鸟及其栖息环境协定》（简称 JAMBA）、《中澳保护候鸟及其栖息环境协定》（简称 CAMBA）和《韩澳保护候鸟及其栖息环境协定》（简称 ROKAMBA）附录中列出的移栖物种。

对国家环境具有重要意义的事项与所有澳大利亚公民息息相关，而且，鉴于全球生物圈的相互联系，这些事项也与国际社会息息相关。《EPBC 法案》秉承生态可持续发展的原则，通过建立法律框架和决策程序，寻求重要环境和文化价值保护与社会经济和社会需求间的平衡。更具体地说，该法案旨在：

- 规定环境保护，尤其是对国家环境具有重要意义的相关事项
- 保护澳大利亚的生物多样性
- 通过控制野生动植物的跨国流动，保护全球生物多样性
- 为涉及国家环境意义的事项提供简化的环境评估和审批程序
- 保护世界与国家自然遗产
- 促进生态可持续发展。

《EPBC 法案》中列明的所有移栖物种都对国家环境具有重要意义。所有对列明的移栖物种有、会有或可能有重大影响的行为都需要审批。必须向部长提交申请并进行环境评估、经过审批流程。

过去 40 年中，澳大利亚在东亚——澳大利亚候鸟迁徙路线保护的国际合作中发挥了重要作用，分别在 1974 年、1986 年、2006 年先后与日本、中国、韩国订立了双边候鸟协定。每个协定都为候鸟及其重要栖息地的防卫与保护提供了依据，规定了除非在特定情况下不得捕捉或交易候鸟，并形成了各国间信息互通，建立了合作关系。

澳大利亚政府认为，栖息地的丧失和退化是许多候鸟保护的重大威胁，对澳大利亚境内及其迁徙沿线重要栖息地的保护对候鸟生存至关重要。许多压力都加速了栖息地的退化，其中人口增长和由此产生的沿海开发特别值得关注。JAMBA、CAMBA 和 ROKAMBA 为每个国家的候鸟保护取得效果提供了一个重要机制。然而，一个国家保护候鸟的努力是不够的，只有与候鸟途径的所有国家相互合作、互补行动才会有效。

서론

1999 년 환경보호 및 생물다양성 보전 조례(Environment Protection and Biodiversity Conservation Act 1999, EPBC Act)는 호주 정부 환경법의 핵심입니다. EBPC Act 는 국가중대환경사안으로 EPBC Act 에서 정의한 국내외의 주요 식물군, 동물군, 생태학적 군집 및 자연유산 지역을 보호하고 관리하기 위한 법적 기틀을 제공합니다.

EPBC Act 에 명시된 이동성 생물종은 국가중대환경사안이기도 합니다. 이동성 생물종이라함은 연중 이주 기간 동안 호주 및 호주령으로 이주하거나 호주 영해를 통과 및 비행하는 동물을 일컫습니다. 이동성 생물종으로는 철새(예, 알바트로스와 바다제비), 포유류(예, 고래), 파충류(예, 바다거북) 등이 있습니다. 등재된 이동성 생물종은 이동성 야생동물종 보전에 관한 협약(Convention on the Conservation of Migratory Species of Wild Animals, CMS 또는 Bonn 협약)과 일본-호주 철새 협정(Japan-Australia Migratory Bird Agreement, JAMBA), 중국-호주 철새 협정(China-Australia Migratory Bird Agreement, CAMBA), 한국-호주 철새 협정(Republic of Korea-Australia Migratory Bird Agreement, ROKAMBA)의 부속서류에 명시되어 있습니다.

국가중대환경사안은 글로벌 생물권의 상호연결성을 감안할 때 모든 호주인에게는 물론 국제적으로도 중요합니다. EPBC Act 는 생태학적으로 지속발전 가능한 개발의 지도원칙에 따라 법적 체계와 의사결정 과정을 갖추어 이러한 중대 환경 및 문화 가치의 보호와 호주 사회의 경제 사회적 요구의 균형을 맞추는 것을 목표로 합니다. 특히 EPBC Act 의 목표는:

- 국가중대환경사안을 비롯 환경 보호를 지원하고,
- 호주 생물다양성을 보전하고,
- 야생 생물의 국가간 이동을 통제하여 국제적으로 생물다양성 보호에 힘쓰고,
- 국가중대환경사안과 관련하여 원활한 환경평가 및 승인 과정을 마련하고,
- 세계 및 국가 유산을 보호하고,
- 생태학적으로 지속가능한 개발을 활성화하는 것입니다.

이동성 생물종의 목록에 오른 모든 종은 EPBC Act 의거한 국가중대환경사안입니다. 등재된 이동성 생물종에 중대한 영향을 끼치거나, 끼치게 되거나, 끼칠 가능성이 있는 행위의 경우 승인을 받아야 합니다.

지난 40 년 동안 호주는 1974 년 일본과, 1986 년 중국과, 2006 년 한국과 철새보호 양자협정을 체결하면서동아시아-대양주 철새이동경로를 이용하는 철새의 보존을 위한 국제적 협력에 있어 중요한 역할을 해왔습니다. 각 협정은 철새 및 그 주요 서식지의 보호 및 보존과 일부 정해진 상황 이외에는 포획 및 거래 금지, 정보 교환, 협력 관계 수립을 지원합니다.

호주 정부는 서식지 소실 및 질적 저하가 많은 호주 철새를 심각하게 위협한다는 점을 인지하며, 호주 내 및 호주 철새의 이동 경로 상의 주요 장소 보전이 철새 생존에 필수라는 점을 인정합니다.

이러한 질적 저하에 기여하는 많은 압박 중 인구 증가 및 이와 관련된 해안 개발은 특별한 우려 대상입니다. JAMBA 와 CAMBA, ROKAMA 는 각국에서 철새 보존 성과를 올리기기 위한 중요한 장치를 제공합니다. 그러나 철새를 보존하려는 한 국가의 노력은 이 철새들이 경유하는 모든 국가에서 협력 및 보완 조치를 취할 때에만 효과적입니다.

View along Shell Beach at the Shark Bay World Heritage Area, Western Australia © John Cleary (CALM)

Red-necked Stint (*Calidris ruficollis*) feeding in the Geum Estuary, Republic of Korea © Chris Purnell

Implementation of the Agreements by the Australian Government

Australian Government Department of the Environment and Energy

Relevant JAMBA Articles: II, III, IV, V, VI
Relevant CAMBA Articles: II, III, IV
Relevant ROKAMBA Articles: 2, 3, 4, 5

Summary

Australia provides critical habitat for millions of migratory birds each year. To ensure their conservation the Australian Government has fostered international cooperation through a range of important agreements, including bilateral migratory bird agreements with Japan, China and the Republic of Korea, the CMS, the Ramsar Convention on Wetlands, the Agreement on the Conservation of Albatrosses and Petrels (ACAP), and through the voluntary, non-binding initiative, the East Asian - Australasian Flyway Partnership. A range of important activities are also undertaken within Australia to conserve migratory bird populations and their habitats. These activities have largely focused on migratory waterbirds, shorebirds and seabirds as their tendency to aggregate in flocks in coastal areas makes them particularly vulnerable to habitat loss and disturbance.

Since the last bilateral migratory bird consultative meetings in November 2014, the Australian Government has pursued a number of new policy initiatives such as the development of the *Wildlife Conservation Plan for Migratory Shorebirds*. The plan outlines a national framework identifying research and management actions to protect migratory shorebirds in Australia. The plan also outlines national actions to support migratory shorebird conservation, and will be used to ensure these activities are integrated and remain focused on the long-term survival of migratory shorebird populations and their habitat. Habitat protection and restoration in Australia has been advanced by the approval of approximately $26 million dollars under the National Landcare Programme for projects that will directly benefit migratory birds and their habitat. The Commonwealth Environmental Water Office, Parks Australia and Great Barrier Reef Marine Park Authority are also working to improve the habitats of migratory birds and reduce or eliminate known threats to these birds such as invasive weeds and feral cats.

As some migratory bird populations decrease, there is a growing need to minimise threats to the remaining habitats that are critical for their ongoing survival. This need is occurring in the face of ever-increasing human development and loss of habitat. The Australian Government recognises that efforts to conserve migratory birds in one country can only be effective with the cooperation and complementary actions in all countries that these birds visit. This is particularly important as the Australian Government recently listed eight migratory shorebirds as threatened species – four of which are critically endangered. Without urgent action to reduce or eliminate threats, further declines leading to extinctions are to be expected.

オーストラリア政府による協定の実行

オーストラリア政府 環境エネルギー省

JAMBAの関連条項：II、III、IV、V、VI

CAMBAの関連条項：II、III、IV

ROKAMBA の関連条項：2、3、4、5

要約

オーストラリアは毎年、何百万もの渡り鳥にとって重要な生息地を提供しています。これらの渡り鳥を確実に保存するため、オーストラリア政府は、日本、中国、韓国それぞれとの渡り鳥に関する二国間協定、CMS、湿地に関するラムサール条約、アホウドリやミズナギドリへの保全に関する協定（ACAP）といった多岐にわたる重要な協定の締結や、自発的で法的拘束力のないイニシアチブおよび東アジア・オーストラリア地域フライウェイ パートナーシップを通して、国際的な協力を育んできました。渡り鳥の生息数とその生息地を保存するための一連の重要な活動がオーストラリア国内で行われています。これらの活動は、海岸地域に群れで集まる習性のために生息地の喪失や障害に対して脆弱となる、水鳥、岸辺の鳥、海鳥で渡りを行うものに主に焦点を当てています。

2014 年 11 月に行われた二国間の渡り鳥に関する最新の諮問会議以来、オーストラリア政府は、*渡りを行う岸辺の鳥に関する野生動物保存計画*の開発といった、いくつかの新しい政策イニシアチブに関する努力を行ってきています。この計画は、オーストラリア内にいる渡りを行う岸辺の鳥を保護するための研究および管理活動を特定する全国的な枠組を描いています。この計画はまた、渡りを行う岸辺の鳥をサポートするための全国的な活動も描いており、このような活動が統合され、渡りを行う岸辺の鳥とその生息地の長期的な生存に焦点を当て続けることを確実にするためにこの計画は用いられます。オーストラリア内での生息地の保護と回復は、渡り鳥とその生息地に直接恩恵をもたらすプロジェクトに関する全国ランドケアプログラムの下で承認された約 2600 万ドルによって推進されてきています。連邦政府環境・水局（The Commonwealth Environmental Water Office）、パークス オーストラリア（Parks Australia）、グレートバリアリーフ海洋公園当局（Great Barrier Reef Marine Park Authority）も、渡り鳥の生息地を改善するため、そしてこれらの鳥に対する、侵害してくる雑草や野猫といった、既に認識されている脅威を軽減又は排除すべく働きかけています。

生息数が減少している渡り鳥がいるため、これらの鳥が今後生存していくために重要な、現存の生息地に対する脅威を最小限に留めるためのニーズが高まってきています。このニーズは、進行し続ける、人間による開発と生息地の喪失に直面して生じています。オーストラリア政府は、一つの国内で渡り鳥を保存するための努力は、協力が行われ、対象となる鳥たちが訪れる国全てにおいて相互補完的な活動が行われて初めて効果を発揮できるということを認識しています。オーストラリア政府は最近、渡りを行う岸辺の鳥を絶滅危惧種として 8 種追加したため、この認識は特に重要です。8 種の内 4 種は絶滅寸前です。脅威を軽減又は排除するための緊急の活動が行われない限り、絶滅へと導く更なる生息数の減少が予測されます。

澳大利亚政府协议的实施

澳大利亚政府环境与能源部

JAMBA相关条款：II, III, IV, V, VI

CAMBA相关条款：II, III, IV

ROKAMBA 相关条款：2, 3, 4, 5

总结

每年数以百万计的候鸟将**澳大利亚**作为**重要栖息地。**为确保这些候鸟的保护，澳大利亚政府努力促成国际合作，签署了一系列重要协议，包括与日本、中国、韩国的双边候鸟协定、CMS、《拉姆萨尔湿地公约》（the Ramsar Convention on Wetlands）、《信天翁与海燕保护协议》（the Agreement on the Conservation of Albatrosses and Petrels, 简称 ACAP），以及通过自愿、非约束性的倡议建立起了东亚——澳大利亚候鸟迁徙路线伙伴关系。还在澳大利亚境内进行了一系列重要的活动，来保护候鸟种群及其栖息地。由于在沿海地区成群聚集的趋势使候鸟特别容易受到栖息地丧失和干扰的影响，所以活动主要集中于迁徙水鸟、滨鸟和海鸟。

自最近一次于 2014 年 11 月举行双边候鸟协商会议以来，澳大利亚政府又采取了一些新的政策措施，如发展“迁徙滨鸟野生动物保护计划”。该计划提出了建立一个澳大利亚国家级识别保护候鸟研究和管理行动的框架。该计划还列出了支持迁徙滨鸟保护的国家行动，并确保这些活动互相协调、并持续关注迁徙滨鸟种群及其栖息地的长久存活。国家土地保护计划（National Landcare Programme）已优先批准了约 2600 万澳元用于澳大利亚境内的候鸟栖息地保护与恢复，这将直接使候鸟及其栖息地受益。联邦环境水办公室（Commonwealth Environmental Water Office）、澳大利亚公园（Parks Australia）和大堡礁海洋公园管理局（Great Barrier Reef Marine Park Authority）也在努力改善候鸟的栖息地，减少或消除这些鸟类的已知威胁，如外来杂草和野猫。

一些候鸟数量不断**减少**，因此更加需要将对剩余栖息地的威胁降至最低，因为这关乎着候鸟的持续生存。面对日益增长的人类发展和栖息地丧失，这种需要迫在眉睫。澳大利亚政府认为，一个国家保护候鸟的努力是不够的，只有与候鸟途径的所有国家相互合作、互补行动才会有效。澳大利亚政府最近将八种迁徙鸟类新加入濒危物种行列——其中四种极度濒危。这一情况，使得国际合作格外重要。如果不采取紧急措施减少或消除威胁，候鸟数量将持续减少，可以预见，下一步就是物种灭绝。

호주 정부의 협약 이행

호주 환경·에너지부
(Australian Government Department of the Environment and Energy)

JAMBA 관련 조항: II, III, IV, V, VI
CAMBA 관련 조항: II, III, IV
ROKAMBA 관련 조항: 2, 3, 4, 5

요약

호주는 매해 수 백만 마리 철새에 주요 서식지를 제공합니다. 보존을 보장하기 위해 호주 정부는 일본, 중국, 한국과의 철새보호 양자 협정, CMS, 습지보호협약(Ramsar 협약), 알바트로스 및 바다제비 보호 협정(ACAP), 동아시아-대양주 철새이동경로 파트너십 등 다양한 주요 협정을 통해 국제적 협력을 증진해 왔습니다. 광범위한 주요 활동으로 호주 내에서의 철새 개체수 및 서식지 보전 활동 등이 있습니다. 이러한 활동은 주로 이동성 수금류(waterbird), 섭금류(shorebird), 해조류(seabird)에 집중되어 있는데 이는 이 조류들이 해안가 지역에 군집하여 서식하는 경향이 있어 특히 서식지 소실 및 교란에 노출되어 있기 때문입니다.

지난 2014 년 11 월에 열린 철새 관련 양자협의회 이후 호주 정부는 섭금류를 위한 야생 생물 보존 계획(*Wildlife Conservation Plan for Migratory Shorebirds*) 개발 등 새로운 정책안 몇 가지를 추진하였습니다 이 계획안은 호주 이동성 섭금류를 보호하기 위한 연구 및 관리 방안을 파악하는 국가적 체계를 약술하고 있습니다. 이 계획안은 이동성 섭금류 보존을 지원하는 국가적 방안도 기술하며, 이러한 활동이 통합적고 섭금류 개체수 및 서식지 장기적 존속에 지속적으로 집중할 것이라는 점을 보장하기 위해 사용될 것입니다. 호주 내 서식지 보호 및 복구는 철새 및 그 서식지 보호에 직접 혜택을 줄 프로젝트에 국가 토지관리 프로그램(National Landcare Programme)에서 약 2 천 6 백만불을 지원 승인함으로써 진행되었습니다. 호주환경용수 관리부(Commonwealth Environmental Water Office)와 호주 국립공원 관리공단(Parks Australia), 대보초해양공원 관리국(Great Barrier Reef Marine Park Authority)이 협력하여 철새 서식지의 증진하고 외래 잡초, 야생 고양이와 같은 알려진 위협을 감소 또는 제거하기도 합니다.

Authority)이 협력하여 철새 서식지의 증진하고 외래 잡초, 야생 고양이와 같은 알려진 위협을 감소 또는 제거하기도 합니다.

일부 철새 개체수가 감소하면서 이들의 지속적인 생존의 위해 필수인 남아있는 서식지에 대한 위협을 감소해야 한다는 필요가 증가하고 있습니다. 부단히 증가하는 인간 개발 및 서식지 손실에 직면하여 이러한 필요가 발생하고 있습니다. 호주 정부는 한 국가에서의 철새 보존 노력은 이러한 철새가 방문하는 모든 국가에서 협력 및 보완 조치를 취할 때에만 효과적이라는 점을 알고 있습니다. 이러한 점은 호주 정부가 최근 이동성 섭금류 8 종을 멸종 우려종으로 등재하면서 특히 중요해졌습니다. 이 중 4 종은 멸종 위기에 처해 있습니다. 위협을 감소하거나 제거하기 위한 긴급 조치가 없이는 개체수 감소가 멸종으로 이어질 것입니다.

Threatened migratory shorebirds in Australia

Recent evidence of significant declines of migratory shorebird numbers, driven largely by habitat loss at their migratory staging points around the Yellow Sea region, led the Minister for the Environment to list two species - Eastern Curlew and Curlew Sandpiper - as critically endangered in May 2015. A further six species/subspecies were added to the threatened species list in May 2016 after their assessments were completed. All eight shorebirds are protected under the EPBC Act as matters of national environmental significance. The current status of the eight shorebirds are as follows:

- Eastern Curlew (*Numenius madagascariensis*) as critically endangered
- Curlew Sandpiper (*Calidris ferruginea*) as critically endangered
- Great Knot (*Calidris tenuirostris*) as critically endangered
- Bar-tailed Godwit (northern Siberian) (*Limosa lapponica menzbieri*) as critically endangered
- Red Knot (*Calidris canutus*) as endangered
- Lesser Sand Plover (*Charadrius mongolus*) as endangered
- Greater Sand Plover (*Charadrius leschenaultii*) as vulnerable
- Bar-tailed Godwit (western Alaskan) (*Limosa lapponica baueri*) as vulnerable

Australian Government representatives have raised these declines with our bilateral migratory bird partners and, with their support, have initiated the development of an *International Action Plan for the Conservation of Far Eastern Curlew* through the East Asian – Australasian Flyway Partnership. The Eastern Curlew was included in a list of 20 priority bird species in the Australian Government's *Threatened Species Strategy* published in 2015.

Threatened Species Strategy

Australia is a country rich in unique plants and animals. They are core to the identity, culturally significant to Indigenous peoples, important to the health of its environment and a strong contributor to our economy. Australia's distinctive plants and animals are a gift and are important to protect. The Australian Government has established an additional national approach to threatened species. The *Threatened Species Strategy* is a plan for how we will prioritise effort and work in partnership with the community and state and territory governments over the next five years. The Strategy sets out a road map and highlights how Australia's approach of science, action and partnership can be used to achieve the long-term goal of reversing species declines and supporting species recovery.

The Action Plan 2015-16 is the first instalment of a five-year Australian Government response to the risk of species extinction. Based on principles for prioritisation outlined in the Strategy, the best available knowledge and technology, and the immediate needs of Australia's threatened species, this plan sets out areas where the Australian Government will focus its efforts to achieve significant, positive impacts. The plan includes key action areas and targets to measure success. It is flexible and adaptive and will be monitored and reviewed annually by the Department of the Environment and Energy in consultation with delivery partners.

The Action Plan 2015-16 identifies 10 threatened mammals and 10 threatened birds for action that will grow their populations by 2020. A further two mammals and two birds have been identified for emergency intervention. The remaining eight mammals and eight birds, including Eastern Curlew, were announced on 22 January 2016 as part of Year 1 commitments under the Strategy. An Additional Initiative for the Christmas Island Frigatebird (*Fregata andrewsi*) was also announced.

The Australian Government is partnering with states and territories to deliver $6.6 million for threatened species projects that will contribute to the targets and action areas identified in the *Threatened Species Strategy*. The projects focus on tackling feral cats, improving habitat, creating safe havens and intervening in emergencies to protect our rare and remarkable animals and plants.

Further information on the Australian Government's *Threatened Species Strategy* can be accessed here: **http://www.environment.gov.au/biodiversity/threatened/publications/strategy-home**

Wildlife Conservation Plan for Migratory Shorebirds

The Australian Government's *Wildlife Conservation Plan for Migratory Shorebirds* covers 35 species of migratory shorebird that regularly visit Australia. The plan outlines a national framework identifying research and management actions to protect migratory shorebirds in Australia. All 35 species covered by the plan are listed migratory species under the EPBC Act as they are listed on the appendices to the CMS and Australia's migratory bird agreements with Japan, China and the Republic of Korea. The plan includes a summary of Australia's commitments under international conventions and agreements and outlines key aspects of identifying 'important habitat' as described in the *EPBC Act Policy Statement 3.21 – Industry Guidelines for avoiding, assessing and mitigating impacts on EPBC Act listed migratory shorebird species*. The plan also outlines national actions to support migratory shorebird conservation, and will be used to ensure these activities are integrated and remain focused on the long-term survival of migratory shorebird populations and their habitat. The plan will be used to engage bilaterally with Japan, China and the Republic of Korea on how threats in the Yellow Sea region can be managed through practical action and community participation. The plan was made in consultation with all state and territory agencies, BirdLife Australia and the research community. There was widespread support for the new plan amongst key stakeholders. Actions included in the *Wildlife Conservation Plan for Migratory Shorebirds* will also benefit a number of shorebird species that were listed as threatened in 2015 and 2016.

Further information on the Australian Government's *Wildlife Conservation Plan for Migratory Shorebirds* can be accessed here: **http://www.environment.gov.au/biodiversity/migratory-species/migratory-bird**s

Referral guidelines for 14 terrestrial birds listed as migratory species under the EPBC Act

This draft guideline applies to 14 terrestrial birds listed as migratory species under the EPBC Act. Given these birds have widespread distributions and occupy relatively broad habitats, these species or their habitats are often detected during surveys for environmental impact assessments. This guideline aims to outline the circumstances where a significant impact on one or more of these species is likely and assist in determining whether approval of

the Minister for the Environment and Energy is needed. The guideline also outlines conservation objectives for these species, important habitat definitions, survey guidelines and recommends mitigation measures.

The guideline was developed in consultation with Charles Darwin University and Birdlife Australia as well as other individuals with experience and knowledge on one or more of these migratory species. They were published in September 2015 and are available at: **http://www.environment.gov.au/biodiversity/threatened/publications/epbc-act-referral-guidelines-migratory-birds**

Critically endangered Eastern Curlew (*Numenius madagascariensis*) at Penrice Salt field, South Australia. ©Brian Furby

Threat abatement plan for predation by feral cats

This threat abatement plan (TAP), made in July 2015, establishes a national framework to guide and coordinate Australia's response to the impacts of feral cats on biodiversity. It identifies the research, management and other actions needed to ensure the long-term survival of native species and ecological communities affected by predation by feral cats.

The TAP outlines the following migratory species which may be affected by predation by feral cats:

Anous stolidus
Apus pacificus
Ardenna grisea
Ardenna pacifica
Ardenna tenuirostris
Calidris tenuirostris
Calonectris leucomelas
Fregata andrewsi
Phaethon lepturus
Phaethon rubricauda
Sternula albifrons

These species were determined from profiles in the Australian Government's Species Profile and Threats Database (SPRAT) that identified predation by feral cats as a threatening process. Note: species listed as marine or migratory are only threatened by feral cats when on shore. This includes predation of juveniles from on shore nests. The plan is available at **http://www.environment.gov.au/biodiversity/threatened/publications/tap/threat-abatement-plan-feral-cats**

Commonwealth investment in migratory birds and their habitat

Parks Australia

Australia's six Commonwealth National Parks, the Australian National Botanic Gardens and 58 Commonwealth Marine Reserves protect some of the country's most stunning natural areas and Aboriginal heritage. They are managed by Parks Australia.

Under the EPBC Act, the Director of National Parks' responsibilities include:

- Managing Commonwealth reserves and conservation zones
- Protecting biodiversity and heritage in Commonwealth reserves and conservation zones
- Carrying out research relevant to Commonwealth reserves
- Cooperating with other countries to establish and manage national parks and nature reserves in those countries
- Making recommendations to the Australian Government Minister for the Environment and Energy

Commonwealth reserves that are wholly or partly on Indigenous people's land are managed in conjunction with a Board of Management. The Board's role is to prepare reserve management plans, make decisions to implement those plans, monitor management and provide advice to the Minister. A majority of board members must be Aboriginal people nominated by the traditional owners of that reserve. These boards play crucial roles in determining the policies and priorities for the management of each protected area.

Since November 2014, a number of projects undertaken by Parks Australia have benefited a number of migratory birds and their habitat. Examples of these projects include:

Christmas Island Cat Eradication and Rat Control Project 2015-2020

This project has removed stray and feral cats as well as introduced black rats from the Christmas Island ecosystem. This includes foreshore, grassland and forested areas utilised by migratory species.

Investment: Project funded in 2015 by $500,000 supported by the Threatened Species Commissioner and an offset contribution by Phosphate Resources Limited of $1.35 million throughout the life of the project (e.g. $250,000 p.a.). Additional funding of $650,000 for 2016 provided by the Director of National Parks.

Norfolk Island Rat Control Program 2015 – 2017

Expansion of the previously existing rat baiting program across Norfolk Island National Park. One thousand additional bait stations have been added to the original 800. All stations are operational.

Investment: This is a Threatened Species Commissioner supported project ($300,000 approved funding; $172,000 currently utilised). Additional in kind funding contribution of $133,000 provided by Director of National Parks.

Feral Cat Control Program within Norfolk Island National Park

Ongoing cat trapping and removal from within Norfolk Island National Park. A total of 53 cats were trapped in 2015; whilst 32 cats have been caught to date in 2016. A draft management plan for managing feral cats on Norfolk Island has been developed.

Tarler Bird (*Porphyrio porphyrio*) Control Program

Control activities have commenced on Phillip Island in response to community raised concerns regarding the predation of eggs and young seabirds.

Weed Control and Habitat Restoration on both Norfolk Island and Phillip Island

a) Ongoing weed control activities occurring on both Norfolk Island and Phillip Island
b) Ongoing propagation and revegetation works on Norfolk Island with current nursery stocks (June 2016) of over 1900 plants

New nursery constructed on Phillip Island, where propagation and revegetation works are ongoing. The projected outcome of propagating and planting 500 plants on Phillip Island is likely to be achieved within the next 12 months.

Investment: The Foundation for National Parks and Wildlife provided $15,000 for the construction of a nursery on Phillip Island. In kind support from the Director of National Parks totals $40,000.

Booderee National Park

Intensive fox control probably benefits roosting migratory shorebirds known to visit Booderee National Park including CAMBA, JAMBA and ROKAMBA listed species: Whimbrel (*Numenius phaeopus*), Bar-tailed Godwit (*Limosa lapponica*), Ruddy Turnstone (*Arenaria interpres*), Oriental Plover (*Charadrius asiaticus*) and Latham's Snipe (*Gallinago hardwickii*).

Weed control on Bowen Island benefits JAMBA, CAMBA and ROKAMBA listed species such as: Short-tailed Shearwater (*Ardenna tenuirostris*), Wedge-tailed Shearwater (*Ardenna pacificus*) and possibly the Sooty Shearwater (*Ardenna griseus*).

National Landcare Programme

The National Landcare Programme is a key part of the Australian Government's commitment to natural resource management. The National Landcare Programme complements funding for the Reef 2050 Plan, the Green Army Programme and the Land Sector Package.

The Australian Government is investing $1 billion through the National Landcare Programme, including support for the Landcare Networks, 20 Million Trees and Australia's 56 regional natural resource management (NRM) organisations. This funding helps support local environmental and sustainable agriculture projects.

The Regional Stream

The regional funding stream will invest funding through Australia's 56 natural resource management organisations, recognising the vitally important role these organisations play in delivering local and regional activities.

Australia's NRM organisations have also committed at least 20 per cent of their National Landcare Programme funding to help support local organisations, such as local landcare groups, to undertake a range of projects that help protect their local environment and deliver more sustainable agriculture.

The National Stream

The national funding stream supports a number of important initiatives that will protect and restore the environment and make agriculture more sustainable and productive. These initiatives will be directly funded by the Australian Government.

They include a range of commitments such as the 20 Million Trees Programme, the 25th Anniversary Landcare Grants, as well as continuing commitments such as World Heritage and Indigenous Protected Areas.

Projects funded under the National Landcare Programme that directly benefits migratory birds and their habitat is valued at approximately $26 million dollars and includes projects such as:

Myall River Corrie Island Rehabilitation

The Myall River Corrie Island rehabilitation project and the tripartite cooperative approach will improve the management and protection of threatened and migratory bird species on the Corrie Island Ramsar site and the lower Myall estuary. The outcomes will include the development of a rehabilitation plan; implementation of pest animal monitoring and control, and weed control; and the reduction of human impact, feral predator access and erosion to Corrie Island via the eastern channel of the Myall River.

Investment: $750,000

Hunter Local Land Services

The Hunter Local Land Services (LLS) project 'Protecting and Enhancing National Priorities and Assets' will deliver a range of activities that will enhance and protect nationally threatened species and ecological communities, migratory and marine species. Areas of national environmental significance in the Hunter region include the Myall Lakes and the Hunter Estuary Wetlands Ramsar sites, the Gondwana Rainforests of the Barrington Tops Area, and the northern extent of the Greater Blue Mountains World Heritage Area. Hunter LLS will be partnering with landholders, community groups, local government and state agencies to undertake conservation activities in and adjacent to areas of national significance.

Crested Tern (*Thalasseus bergii*) colony on Lady Elliot Island, Great Barrier Reef, Queensland © Graeme Chapman

Biodiversity Fund – Hastings River

A habitat restoration project, targeting invasive weeds on an island in the Hastings River, being a roosting area for the shorebirds that migrate from the northern hemisphere in summer. Feral predator control, fox and rat, will reduce the predation of JAMBA, CAMBA and ROKAMBA listed shorebirds.

Investment: $55,200

Riversmart Australia Ltd

The Ramsar listed Macquarie Marshes, New South Wales support high levels of endemic biodiversity, as do the lowland and slopes portions of the Macquarie River upstream to Burrendong Dam. The 'Maintaining and enhancing the lowland-upland wildlife adaptation corridor' project will identify high value remnants and prioritise works to see these protected and connected.

Investment: $1,681,000

Shortland Wetlands Ramsar site: Habitat recreation and restoration project

At the Shortland Ramsar site the project will include planting, weeding and pest control. The process will improve site bushland connectivity and connectivity with Hexham Swamp and surrounding bushland, habitat for native birds, animals and reptiles and food source availability for them.

Investment: $417,000

Protect biodiversity in the coastal corridor of the Myall Lakes Ramsar site

This project will protect the ecological character of the Myall Lakes Ramsar Site, the threatened ecological community Littoral Rainforest, migratory and threatened species, by working co-operatively with partners to reduce threats to biodiversity across the coastal landscape. It will deliver a strategic weed management program for transformer weeds and priority weed species identified in the ecological character description including weeds of national significance - bitou bush, lantana and asparagus species. The project will also work to reduce threats to coastal habitats on public and private lands to enhance linkages and protect biodiversity along the Myall coastal corridor.

Investment: $780,000

Connecting River Corridors for Landscape Resilience – Peel-Harvey Catchment Council, Western Australia

In the face of climate change and increased fragmentation, the project aims to improve long term ecological function and ecosystem services across the Peel-Harvey catchment. It will do this by retention and restoration of ecological and cultural corridors from the headwaters of our major rivers to the receiving waters of the internationally recognised Ramsar 482 listed Peel-Yalgorup System by June 2017. The Peel-Yalgorup Ramsar wetland management plan lists 39 CAMBA, JAMBA and/or ROKAMBA migratory waterbird species that may benefit from this project.

Protecting the Peel-Harvey's Natural Assets, Western Australia

In partnership with its community, the Peel-Harvey Catchment Council contributes to the protection of migratory shorebirds in the Peel-Yalgorup Ramsar wetlands through:

- Working at 18 Peel-Yalgorup sites to maintain or enhance the ecological character of the 1,292 hectare Ramsar wetland.
- Maintaining or improving the condition of 40 hectares of migratory species habitat.
- Funding and facilitating annual BirdLife Australia Shorebird 2020 counts and training community groups and volunteers in shorebird identification and protection, specifically species such as the Fairy Tern.

South West Environment, Western Australia

The South West Catchments Council contributes to the protection of migratory shorebirds in the Vasse-Wonnerup Ramsar wetlands through:

- Funding support for the Vasse Wonerup Task Force which coordinates and oversees the delivery of a range of projects and actions across the Geographe Catchment to improve water quality and management of key water assets. Outcomes will have both a direct and indirect benefit for the Vasse-Wonnerup wetlands as it supports many thousands of native Australian and migratory waterbird species as well as the largest breeding population of Black Swans in Western Australia. At nearly 50 birds per hectare during peak times the wetlands support one of the highest concentrations of waterbirds in Western Australia.
- Funding the Vasse Wonnerup Wetlands System Research Program which includes three PhDs and one Honours project to assist in the development of management recommendations for the Vasse Wonnerup wetland management plan. This research into the ecological and social sciences aims to provide an integrative solution to the management of the Vasse Wonnerup Wetland System. The outcomes of the research will be used to help determine the likely ecological consequences for bird fauna from different environmental and management scenarios that alter the abundance of key food types and sources for birds.

- Working with the WA Department of Parks and Wildlife to restore habitat (revegetation, weed and pest control) at three sites within the Vasse Wonnerup Ramsar wetland system (Sabina Rivermouthsite, Sabina Cardinal Bywaters site and Bemax site). Three consecutive years of planting and weed control are taking place under the current National Landcare Programme (from 2015-18).

Restoring and Protecting Values of Coastal Environments, Waterways and Ramsar wetlands in the South Coast of Western Australia

In partnership with its community, South Coast NRM contributes to the protection of migratory shorebirds in estuaries and wetlands across the south coast of WA (including Lakes Warden and Gore Ramsar wetlands) through:

- Delivering rehabilitation works (fencing, revegetation and weed control) in priority areas across 45 hectares of the Lake Warden and Lake Gore catchments that will assist to restore the ecological character and abate threats to Ramsar values identified in Lake Warden and Gore Ecological Character Description reports, thus maintaining habitat condition for migratory shorebirds.
- Funding and facilitating annual BirdLife Australia Shorebird 2020 counts across south coast estuaries and coastal wetlands, and training community groups and volunteers in migratory bird identification and protection.

Living Wetlands, Western Australia

The Living Wetlands project focuses on protecting, restoring and connecting nationally and internationally significant assets through local community action. These environment assets include the Thomsons Lake and Forrestdale Lake Ramsar site. By June 2018, this project will have contributed to the ecological health of Ramsar and Nationally important wetlands in the Swan Region by enhancing/maintaining the ecological character of 20 hectares of Ramsar and Nationally important wetlands. The Forrestdale and Thomson Lake Ecological Character Description includes 28 wetland bird species on the CAMBA, ROKAMBA and JAMBA lists that have been recorded at the lake.

Rangelands Natural Resource Management Co-ordinating Group, Western Australia – Kimberley Project

This project will deliver targeted on ground works on private lands and will enhance connectivity, maintain biodiversity and protect identified EPBC Act listed threatened species and communities across 160,000 km2 of the Kimberley region. Within the Kimberley, threatened species such as the Gouldian Finch, the Purple-crowned Fairy-wren, and the Monsoon Vine Thickets of the Dampier Peninsula and the Ramsar listed Roebuck Bay are under threat from ever increasing pressures and impacts. Loss of habitat due to uncontrolled wildfires, weed encroachment, lack of nesting and general habitat are of major concern to these endangered species. Loss of water quality through pollution and sedimentation and an increase in the amount of algal blooms present within Roebuck Bay are all contributing factors that Rangelands NRM, together with partner organisations, aims to address. Together with the Roebuck Bay Working Group, threats to Roebuck Bay will be monitored and activities will be undertaken to address the amount of nutrient and sediment entering the bay via overland flows from adjoining pastoral land and through urban drainage systems. It is intended to analyse results from recent sampling programs to determine where remedial works will be focused. A strong community education and awareness program also forms part of this work.

Lake Woods Wetland - Biodiversity Asset Protection, Northern Territory

Lake Woods is one of the largest inland draining freshwater lakes in the Northern Territory and is internationally important for waterbird migration, breeding and populations. The most significant threat to the biodiversity values of this high conservation value aquatic ecosystem is the Weeds of National Significance species Parkinsonia aculeata. The project aims to reduce the impact of this weed primarily through on-ground chemical control works, augmented with support for biological control trial work. Regular fixed site and aerial survey techniques will be used to monitor impact of works. Biodiversity surveys will be undertaken, building on previous work undertaken on the Lake.

Investment: $1,030,000

Protecting our Natural Environment – Northern Territory

This project will support activities in specific Sites of Conservation Significance (SOCS) across the Northern Territory and in areas where environmental impacts are most significant and where control is most likely to be effective and lead to improved environmental and economic outcomes. The project will include strategic management to protect and conserve Wetlands of National Significance, SOCS and sensitive habitats. Wetland habitat degradation is a significant threat to migratory waterbirds. Identified threats to the integrity and sustainability of these areas include invasive weeds (prickle bushes) and pests. Activities will concentrate on the strategic management of these threats and address actions identified under international bilateral migratory bird agreements (JAMBA, CAMBA and the ROKAMBA).

Managing our Landscapes – Northern Territory

This project will focus on coordinated landscape-scale management to reduce environmental threats and pressures so as to improve ecosystem services and provide long-term social and economic benefits to the environment. The project will engage and work with community and pastoral land management groups, pastoral land managers

Aerial view of Hill Inlet at Whitehaven Beach on Whitsunday Island, Queensland © Department of the Environment and Energy

and Indigenous groups across the Northern Territory to increase awareness and adoption of improved land management practices. It will support planning for and coordination of collaborative activities to implement on ground actions to improve NRM outcomes at both local and regional landscape scales, and increase the capacity, knowledge and skills of land managers to manage natural resources and priority assets.

Finniss Reynolds Catchment Group (FRCG): Management of Invasive Species – Northern Territory

FRCG land manager members including Traditional Owners, National Parks and pastoralists, will work collaboratively to physically control the threat posed by feral pigs and Weeds of National Significance *Mimosa pigra* at a catchment scale on sites of high biodiversity value; the Finniss River and Anson Bay catchments. The project will identify and map the scale of the infestation; produce a catchment management plan; physically remove large scale infestations; control feral animals; and employ a Weeds Officer to manage and coordinate activities. The outcome will be an increase in native vegetation, capacity building of land managers, employment and improved land productivity, plus improved habitat for migratory species.

Samphire Coast Icon Project – South Australia

The Samphire Coast is a significant but highly threatened and undervalued remnant coastal corridor north of Adelaide, South Australia. The project seeks to implement conservation and community stewardship actions to maintain and rehabilitate coastal samphire, shorebird and coastal bird, reptile and butterfly habitats. The project will provide a framework to boost strategic efforts across agency, local government and community and industry partners to address the long recognised need to better conserve and protect this area for the future.

Implementing the Limestone Coast and Coorong Coastal Action Plan – South Australia

This project will implement the priority actions detailed in the Caring For Our Country funded Limestone Coast and Coorong Coastal Action Plan and Conservation Priority Study 2011 (LCCCAP), South Australia's Naturelinks program and the Habitat 141 Coastal Conservation Action Plan.

The project will focus on a coordinated program to enhance the extent (200 ha), ecological integrity and connectivity of coastal habitats (26,825 ha) in the South East of South Australia against current and future threats including weed and feral animal invasion, habitat fragmentation, and the impacts of climate change. This project will involve stakeholders by building on the relationships developed in previous Caring For Our Country funded projects.

Limestone Coastwatchers – South Australia

This program will win the hearts and minds of the community, improve the health and report on the condition of our coast. Key outcomes; - a coastal education program at six towns to approximately 1000 participants each year - school coastal education program in five schools - support to 15 community groups undertaking conservation activities - marine debris removal and monitoring program along 250 km of coast - control 200 ha of erosion and protect 300 ha of native vegetation - a Limestone Coast Health Check on the health of the intertidal zone, shorebirds, waterfowl and three vegetation types and threatened orchids - develop model visitor access plans for two coastal towns - develop signage and interpretive standards.

Restoring and protecting nationally significant wetlands and river systems – Kangaroo Island Natural Resources Management Board, South Australia

The project will improve the condition, health, extent and connectivity of 1,172 ha of four nationally important wetlands and riparian vegetation on Kangaroo Island through habitat restoration and biodiverse plantings, in conjunction with weed and pest animal control activities.

Restoring the Piccaninnie Karst Wetlands – South Australia

The Piccaninnie Ponds Karst wetland system is a Ramsar-listed wetland in the South East of South Australia. The ecological condition of at least 175 ha of the wetland complex was enhanced through the project by restoring the natural connectivity between the eastern and western sections of the complex. This was achieved by removing artificial impediments to water flows and re-establishing the natural movement of water and species through the eastern wetland and to the sea. The wetlands support 61 species of conservation significance including the critically endangered Orange-bellied Parrot and provides habitat for 20 migratory bird species.

Kangaroo Island Community Shorebirds Project – South Australia

This project will continue to collect data for Birdlife Australia's Shorebirds 2020 project, providing information to help address key and emerging threats to shorebirds. Remapping Kangaroo Island shorebird areas and ongoing ID training will give volunteers the technical skills they require to conduct project work, thus ensuring high retention rates and ongoing success of the group's projects. The biannual/national Hooded Plover Census, development of a Kangaroo Island Shorebirds website, and ongoing newsletters and articles will continue to educate and engage the wider Kangaroo Island community.

Restoring and Protecting Values of Coastal Environments, Waterways and Ramsar wetlands in the South Coast of Western Australia

This sub project supports the community and partners to protect coastal environments and urban waterways, ecological communities, and EPBC Act species across coastal environments of the South Coast NRM Region. The project will be delivered over 5 years in priority sites identified by the community and partner organisations under the guidance of the Regional NRM Strategy 'Southern Prospects' and the Regional Coastal Strategy 'Southern Shores'.

Investment: $2,591,970

Conserving Alinytjara Wilurara's coastline through enhanced Indigenous capacity – South Australia

This project seeks to conserve and protect many nationally threatened species and significant coastal ecosystems along the Far West Coast of South Australia. The overall health and resilience of this remote coastline will be improved on-ground actions that reduce threats.

Protecting Ramsar values through rehabilitation works for Lake Warden and Lake Gore

This project will deliver targeted rehabilitation works in priority areas within the Lake Warden and Lake Gore catchments to restore ecological character and abate threats to Ramsar values identified in Lake Warden and Gore Ecological Character Description reports and by the Lake Warden and Gore Technical Advisory Group. Activities will include: biodiverse planting to restore habitats for significant flora and fauna and mitigate altered hydrology

and salt loads, protection fencing to reduce grazing pressure on remnant vegetation and waterways, monitoring migratory bird populations to assist conservation measures, engagement and participation of the community including Indigenous in the protection of Ramsar wetlands.

Ecosystems and Coastal Management on Eyre Peninsula – South Australia

A component of this broader project has focussed on a partnership with Birdlife Australia for the provision of workshops for teachers on beach nesting and migratory bird species. The project also part funded a week long field trip which was primarily focussed upon the banding of Hooded Plovers and training in the use of remote sensing cameras which are used in the monitoring of a wider group of bird species including both beach nesting and migratory species.

Pilbara Pastoral Region - Protecting Against the Weed Invasion – Western Australia

This project has worked towards the eradication of two geographically separate weed threats in the Pilbara. In the East Pilbara, the project worked with neighbouring land managers towards eradicating a discrete infestation of Parkinsonia located on the Fortescue River. This will reduce the threat to the internationally recognised Fortescue Marshes, renowned as a vital breeding habitat for migratory birds. In the West Pilbara, the project has undertaken wider surveillance and follow-up treatment of the largest infestation of Coral Cactus in the Pilbara.

Investment: $20,000

The East Gippsland Rail Trail Community Engagement Project - Victoria

This project has been working to conserve the natural habitat of a number of endangered and threatened native fauna and flora species along the East Gippsland Rail Trail against the threat of invasive plant species, flooding, erosion, and human interference. The focus has been on revegetating sectors of the Trail in the vicinity of East Bairnsdale, Nicholson and Bumberrah, including rehabilitation of a small section of remnant temperate littoral rainforest on the west bank of the Nicholson River adjacent to the Trail. The project has included installation of nesting boxes for migratory and sedentary bird species.

Investment: $20,000

Upper Paroo Catchment Pest and Weed Control - Queensland

This project controlled the spread of a number of weeds (Mother of Millions, Hudson Pear and Coral Cactus) down the Paroo River High Ecological Value Aquatic Ecosystem by addressing them at the source. The project's actions will also assist properties downstream eradicate these weeds from their grazing system and reduce the potential impacts they may have on the Ramsar listed Currawinya Lakes (Currawinya National Park) and its associated threatened and migratory species.

Investment: $8,000

Survey Fauna and Flora - Enrich Wetland Biodiversity - Yowie Park Hopetoun

This project is conducting flora and fauna surveys of two freshwater storage lakes and the surrounding land areas of the Yowie Park precinct. The species identified will be featured on informative all-weather display signage that will be erected and will assist visitors and community members identify the diverse local flora and fauna of Yowie Park, which includes migratory species. Complementary planting of endemic water tolerant species between the two water storages by volunteers and school students will be employed to enhance the habitat for fauna.

Investment: $10,450

Gurriba Island - Targeting Invasive Weeds on a Remote Island Sanctuary, Northern Territory

This project will support the Crocodile Islands Rangers to combine modern methods with Traditional Knowledge to target the invasive weed Caltrop (*Tribulus terrestris*) on the remote offshore Gurriba Island in North-East Arnhem Land. Works will improve the habitat of Gurriba Island which is both environmentally and culturally significant and is a nationally significant nesting site for threatened Flatback, Green and endangered Olive Ridley turtles as well as numerous species of migratory birds.

Investment: $18,000

Gunbalanya Station - Integrated Mimosa Control Project, Northern Territory

The Gunbalanya Station Indigenous Land Corporation is undertaking this project with the sponsorship of Territory Natural Resource Management Incorporated. This project is continuing efforts to control *Mimosa pigra* (a highly invasive Weed of National Significance and a declared weed in the NT) over 1,200 ha on the Gunbalanya floodplain. This area borders downstream Kakadu National Park wetlands that are Ramsar listed and are a World Heritage Area. Gunbalanya Station will use an integrated approach to control the weed, including aerial spraying; ground control; grazing management; fire control; vehicle hygiene; and control of feral pigs and horses to reduce spread. This will benefit habitat for listed migratory and threatened species.

Investment: $20,000

Corner Inlet, Victoria - Protecting the Ramsar Site and Streams from Blackberry Invasion

Corner Inlet Blackberry Action Group (CIBAG) is undertaking this project with the sponsorship of Yarram Yarram Landcare Network Inc. This project is removing 350 hectares of Blackberry from the Corner Inlet Ramsar and the adjacent lands and waterways that feed into it. This will be done in conjunction with the efforts of landholders and managers of public lands in adjacent areas. Landholders will gain new knowledge and skills to increase the effectiveness of their weed control and will be encouraged to enter into landholder agreements to keep Blackberry in check for at least 3 years. The concerted effort across the landscape will result in: reduced fox numbers and predation upon migratory birds; better wildlife movement and natural revegetation; improved status of the threatened salt marsh, mangrove and other vegetation communities that surround Corner Inlet; and greatly reduced chance of re-infestation.

Investment: $20,000

Pelican Island - Restoration of Wading Bird Habitat and Littoral Rainforest

This project is building on past work to help restore the rainforest and other habitats of Pelican Island by: targeting the reduction of invasive weeds (especially Weeds of National Significance) and feral animal control, to reduce the predation upon migratory shorebirds and threatened resident birds. This project will also help maintain the suitability of the high tide shorebird roosting sites for birds that migrate from the northern hemisphere. This project complements existing projects (funded by other grants) of weed and animal control on adjoining natural areas by the Macquarie Hastings Council.

Investment: $17,580

Terns at Winderabandi Point, Ningaloo Marine Area © Tony Howard

Urban Riparian Corridor Restoration of Oxley Creek Common, Queensland

This project will plant and maintain 27,000 native shrubs and trees on 6 ha of the Oxley Creek Common, a unique 115 ha open space on the lower and highly urbanised reaches of Oxley Creek. The Common is key to maintaining a riparian corridor that includes specimens of the endangered ***Gossia gonoclada*** and provides valuable bird habitat. Over 190 bird species have been recorded at the Oxley Creek Common, including Latham's Snipe, an EPBC Act listed migratory bird species. The project will assist the rehabilitation of Lowland Riparian Forest to improve habitat condition and connectivity, to reduce the impact of weeds and to improve water quality.

Investment: $99,500

Conservation actions for enhancing wetlands of national significance, springs and waterways

This project contributes to several national and international priorities by maintaining and/or enhancing the ecological characteristics of Wetlands of National significance, including mitigating impacts on the Great Barrier Reef, regionally significant species (including migratory species) and their habitats. The project is engaging the NRM community in undertaking flora and fauna surveys and natural resource management actions addressing fire, soils, pests, weeds and water that reduce threats to wetlands, springs and waterways. The project will improve the protection, rehabilitation and/or restoration of up to 300 000 ha of prioritised environmental assets, wetlands, threatened species, ecological communities and migratory species.

Investment: $464,821

Restoration of habitat for declining migratory shorebirds at Snake Island, Victoria

A recent collapse of EPBC Act listed species within this Ramsar site is mainly due to the damage to a single culvert which led to the drying out of the site and the creation of toxic acid-sulphate soils. The damage can be reversed easily and cheaply if the culvert is replaced and flows to the system are re-instated. The site contains EPBC Act listed saltmarsh ecological communities and habitat for the critically endangered Orange-bellied

Parrot. Partner organisations: Birdlife Australia; Department of Environment and Primary Industries (Victorian Government); Arthur Rylah Institute; Corangamite CMA; Geelong Field Naturalists.

Investment: $32,000

Protecting Corangamite Ramsar sites and Orange-bellied Parrot

The Protecting Corangamite Ramsar Sites and values (Port Phillip Bay (Western Shoreline) and Bellarine Peninsula) project will be delivered through a direct targeted approach to protect and enhance 265 ha for those wetlands within the region, and with a particular bias to the protection and enhancement of the recently nominated EPBC Act listed Coastal Saltmarsh vegetation community. Conservation actions will also occur for a range of avifauna and migratory shorebirds with 135 species being recorded. The project will support strategic management of fox and rabbit control to protect migratory waders in line with key seasonal requirements and priority locations. Opportunities to conduct feral cat control will be investigated, however it is generally considered to be too difficult to undertake at the scale necessary to be effective given the current technical challenges of effective baiting of the species.

Investment: $631,460

Corangamite coastal environment and ecological communities, Victoria

The Ecosystems and Coastal Environments project will work with a range of partners and landholders to protect and enhance existing nationally listed ecological communities over the Corangamite region, along with associated coastal ecological assets. There are six threatened species and one Ecological Community that will be targeted through this project. Two primary delivery mechanisms will be utilised namely; 1) a directed targeted approach and 2) the application of Coastal Tender (Round 3) through a market based instrument (MBI) approach. Round three of the Coastal Tender will be implemented to contract land managers under five year contracts through a single MBI round. The direct target approach will remain available to take advantage of investment opportunities throughout the remainder of the program (up to 2018), subject to funding in that allocation remaining available, i.e. if it has not been already allocated in full to good value proposals. These instruments will be used to maximise community engagement and the uptake and contracting of best-value for money sites to achieve the most appropriate balance / optimisation of outcomes. Threatened species management will be prioritised using DEPI's NaturePrint GIS modelling process, to maximise outcomes for multiple species and / or the most critical habitat for single species of interest. In addition, the actions for biodiversity conservation (ABC) database will be used to prioritise actions from national recovery plans for individual populations to be managed, i.e. the highest priority actions will be implemented at the highest priority locations.

Investment: $980,435

Victorian Volcanic Plains (VVP) and Western District Lakes Recovery Program

This project is being implemented through the utilisation of a community grants process. The objective of the program is to support community/landholder involvement in protecting, enhancing or promoting VVP biodiversity assets with a focus on on-ground outcomes and community awareness/engagement. The assets on the VVP that this project aims to assist in restoring or enhancing are; remnant vegetation (including paddock trees) and wetlands. The VVP Small Grants Program is designed to contribute to the following:

- Facilitate on ground biodiversity activities on the VVP.
- Enhance and maintain the capacity of private landholders to undertake biodiversity activities on their property.
- Increase community interest and knowledge of the VVP's natural assets.

- Relationships and partnerships are fostered, built, maintained and strengthened.
- Provide a catalyst for changing VVP land management behaviour/practices.

Investment: $1,214,955

Restoring and maintaining urban waterways and coastal environments

Building on foundational work undertaken over the past two years, Cradle Coast NRM will contribute to the restoration and maintenance of coastal environments and urban waterways by protecting and/or enhancing 250 hectares of vegetation.

Investment: $1,038,289

Protecting Ramsar sites in the Gippsland Lakes

This project will undertake work at two Gippsland Lakes Ramsar sites. One is at Jones Bay on the Gippsland Lakes, the other is at Lake Tyers. Both sites are part of an important habitat for a number of significant plant and bird species as well as bird species subject to obligations under JAMBA, CAMBA and ROKAMBA.

Investment: $177,224

Restoring Eucalyptus Woodlands to the Victorian Volcanic Plains Landscape

Remnant vegetation comprises less than 0.01% of the Victorian Volcanic Plains (VVP) area and is threatened by clearing and fragmentation. This project will revegetate 37 hectares of cleared agricultural land across the Corangamite Lakes Landcare Network area with VVP eucalypt woodland species to increase habitat area, improve landscape resilience, establish 20kms of connecting corridors and enhance areas of adjacent remnant *E.camaldulensis* woodland and Poa tussock grassland. Fencing of waterways and revegetation of riparian zones will protect habitat for Corangamite Water Skink and improve water quality into Ramsar wetlands and lakes. Contributions from participating landholders will provide a 5.6 to 1 benefit-cost for grant funds.

Investment: $63,570

Coastal Connections – Victoria

The Coastal Connections project will work with community groups and public and private land managers in the high priority coastal zone of Habitat 141 to protect and restore 520 ha of coastal vegetation and wetlands. The project will focus on increasing connectivity of vegetation communities at nationally significant wetlands (Lower Merri and Yambuk Lake) and enhance critical habitat for EPBC Act-listed species including the Orange-bellied Parrot. A range of targeted engagement activities and incentive types will be utilised to maximise uptake and ensure best-value sites are protected and secured into the future.

Investment: $1,466,226

Building the resilience of the Barmah Forest Ramsar Site to protect its ecological character

The ecological character of Barmah Forest Ramsar Site is threatened by incursions of high priority pest plants and animals (e.g. Cabomba, Arrowhead, Blackberry, Feral Pigs, Foxes and Rabbits). This project will focus on the control of identified high priority pest plant and animals to maintain the ecological integrity of this Ramsar site. Work will be undertaken in partnership with land and water managers, local and state government agencies,

traditional owners and landholders. In addition, the capacity of Barmah Forest Traditional Owners (Yorta Yorta Nation) to undertake natural resource management will be built through direct involvement in the planning, delivery, and reporting of the project. To achieve these outcomes, the project will achieve the following:

- Communities are protecting species and natural assets of the Barmah Forest Ramsar Site through restoration and rehabilitation of the natural environment;
- Increased engagement and participation of the community, including landcare, farmers and indigenous people, in sustainable NRM.

Investment: $1,956,913

Supporting the protection of values for the Hattah Lakes Ramsar site during the restoration of an appropriate water regime

This project will restore and protect key ecological attributes of the Hattah-Kulkyne Lakes Ramsar site by reducing the critical threats posed by pest plant and animal species. On ground activities will be strategically targeted across 6,000 hectares of riparian and aquatic habitat contained within the 12 Ramsar listed lake sites. Delivery over five years will further secure the environmental benefits of complementary Living Murray investment, with invasive species representing a major risk to the ability of this basin plan targeted habitat to respond to favourable conditions through the restoration of appropriate water regimes.

Investment: $1,956,913

Gunbower Forest Key Asset Protection Project

Gunbower Forest, situated on the Murray River floodplain downstream of Echuca, is an internationally (Ramsar) important river red gum wetland complex. Spanning 20,000 hectares, the forest is home to many endangered plants and animals, contains numerous sites of Indigenous cultural significance and is popular for recreational activities such as kayaking, fishing and bushwalking. The Gunbower Forest Key Asset Protection Project (the Project) will focus activities which address the critical threats impacting on the forest's ability to support and maintain its ecological character, particularly relating to native habitat and vegetation condition and pest animal control. The Project will complement and integrate previous works to maintain and improve the values at key sites within the forest and undertake a range of activities both within the forested environment and specific areas which adjoin the forest, principally along and adjacent to Gunbower Creek. Key assets within the forest and adjoining landscape will be targeted for intervention and prioritised according to their ability to support matters of national environmental significance including endangered, vulnerable and /or depleted Ecological Vegetation Classes (EVC's), EPBC Act vegetation communities, threatened flora species and fauna species. The support and contribution of individuals and the local communities which adjoin the Gunbower Forest are critical to the success in achieving project outcomes. Opportunities to share, learn from and empower others to achieve these outcomes will occur through a range of events, workshops and field days. This will encompass the sustainable use of natural resources, environmental and cultural protection and restoration and ongoing management regimes.

Investment: $1,774,208

Kerang Priority Wetlands Protection Project

The Kerang Priority Wetlands Protection Project (the Project) consists of 6 out of 23 internationally significant (Ramsar) wetlands. Lake Bael Bael, the Avoca Marshes, Lake Kelly, Lake William, Lake Tutchewop and Reedy Lakes have been prioritised according to their ability to support matters of national environmental significance including:

- Endangered, vulnerable and /or depleted Ecological Vegetation Classes (EVC's)
- Threatened flora species
- Threatened fauna species
- Invasive species impacts

The wetlands are recognised for their representativeness of Victorian wetlands, valuable flora and fauna values and are all on various public land tenure. The wetlands support a high diversity of waterbird species and several species are listed under migratory bird bilateral agreements (JAMBA, CAMBA, ROKAMBA). The project incorporates four of the eight Victorian wetland categories: deep freshwater marsh, permanent open freshwater, permanent saline and semi-permanent saline. Of these, deep freshwater marshes are considered one of the most depleted wetland categories in Victoria. The wetlands also contain hundreds of registered sites of Indigenous cultural heritage significance including mounds, scarred trees, middens, burials, hearths, surface scatters and a range of isolated artefacts. The Project will focus on the implementation of activities which address the critical threats impacting on the ability of the defined wetlands to support and maintain their ecological character, particularly relating to native habitat and vegetation condition and pest animal control. Local communities and visitors to the region will be encouraged learn, appreciate and value their international significance and advocate for their ongoing protection and maintenance and sustainable use.

Investment: $1,267,230

Protecting the ecological values of the Port Phillip Bay - Western Shoreline Ramsar site

This project aims to maintain the ecological character of the Port Phillip Bay (Western Shoreline) section of the internationally significant Ramsar wetland through:

- Targeted management of pest plants and animals
- Targeted management of recreational use
- Maintaining and strengthening partnerships between Ramsar site managers to facilitate further collaboration in the delivery of activities to protect the values of the site
- Targeted engagement with local community and environment groups to improve their knowledge about site values and to build their skills and capacity to participate in activities that will protect these values. It builds on a recent similar project that has made sound progress towards addressing these issues.

Investment: $348,800

Protecting the ecological values of the Western Port Ramsar site, Victoria

This project aims to maintain the ecological character of the internationally important Western Port Ramsar site through:

- Targeted management of invasive plants and animals, and stock access, at priority locations within and adjacent to the site
- Maintaining and strengthening partnerships between Ramsar site managers to facilitate further collaboration to protect the values of the site
- Targeted engagement with local community and environment groups to improve their knowledge about the site and to build their skills and capacity to help protect these values. It builds on a recent very successful work on the Ramsar site that has made strong progress addressing these issues.

Investment: $1,337,200

Waterways and coastal areas -Tasmania

This project will run until June 2018 and will deliver a regional engagement program to 350 local community members, volunteers and visitors to Tasmania on coastal issues, Ramsar sites and resident and migratory shorebirds. It will conduct on ground activities to improve habitat condition over 17 hectares in and around 5 EPBC Act listed species and communities: Coastal Saltmarsh; Swift Parrot; Forty Spotted Pardalote; Hooded Plover; migratory shorebirds; and Little Penguin and wetland environments including seagrass and reeds. Activities will also be directed to support priority action within 2 coastal Ramsar sites- Moulting Lagoon and Pitt Water Orielton lagoon through landholder management plan development or implementation. The project will be delivered through externally employed Local (NRM) Facilitators, community groups and landholders and coastal organisations and be supported by a South East Regional Shorebirds Alliance. Activities will be delivered by the South East Regional Shorebirds Alliance, local government, industry and community groups.

Investment: $698,453

Corner Inlet Connections – Victoria

Valued for its marine and coastal parks, productive fishing and agricultural industries, and thriving local communities, the Corner Inlet catchment is renowned for its diversity and landscape. In the inlet's sheltered, shallow waters a range of marine, estuarine and coastal ecosystems support wildlife, such as migratory shorebirds, that contribute to its international significance as a Ramsar-listed wetland. Protecting the environmental, productivity and community values associated with this regional treasure is a key priority of the Corner Inlet Connections project. The project is underpinned by an established partnership of agencies, community groups and industry bodies. Its approach focuses on community participation, knowledge and skill sharing, and practical on-farm improvements that bring benefits to landholders and to water quality within the Corner Inlet catchment. This work is guided by the Corner Inlet Water Quality Improvement Plan which will prioritise project work to address the threats to Corner Inlet from sediment and nutrient run-off from the surrounding catchment and will ensure that other threats within the inlet are also attended to.

Investment: $2,022,000

Protecting Lake Albacutya Ramsar Site Values – Victoria

The ecological and cultural values of the Lake Abacutya Ramsar Site of north western Victoria will be protected and enhanced through targeted threat abatement works involving Parks Victoria, Traditional Owners, and the Rainbow Landcare Group. On-ground works will reduce critical threats posed by rabbits in culturally sensitive areas. This is a priority for helping to meet Australia's international obligations to protect native species and ecological communities, cultural heritage and cultural diversity at the site, facilitating natural regeneration and recruitment of the Pine Buloke woodland and other flora species that provide habitat for the large number and variety of waterfowl that rely on the Ramsar Site during wet periods.

Investment: $264,353

The 20 Million Trees Programme

The Australian Government is working with the community to plant 20 million trees by 2020, to re-establish green corridors and urban forests. The 20 Million Trees Programme is part of the national stream of the National Landcare Programme, and has four strategic objectives:

- **20 million trees** – 20 million trees and associated understorey planted by 2020.
- **Environmental conservation** – support local environmental outcomes by improving the extent, connectivity and condition of native vegetation that supports native species
- **Community engagement** – work cooperatively with the community
- **Carbon reduction** – contribute to Australia reducing its greenhouse gas emissions.

The 20 Million Trees Programme complements and aligns with other Australian Government environmental initiatives, such as the Green Army Programme and the work of the Threatened Species Commissioner.

The Australian Government has committed $70 million over six years to the 20 Million Trees Programme, with funding from 2014-15. The programme involves competitive grants, delivered by individuals and organisations, and larger-scale plantings, delivered by service providers.

To date, eight projects relating to migratory birds and their habitat have been funded totally approximately $652,201. Examples of these projects include:

Derriwong/Ootha - Connecting Ecological Communities

This project will see a large corridor of farm land restored to native vegetation in central New South Wales. The activities will engage passionate landholders, Landcare, the Condobolin Green Army team and community in undertaking revegetation activities that will connect two threatened ecological communities, providing a significant area of native vegetation established within biodiversity corridors. The project will provide multi-beneficial conservation and agricultural outcomes in this productive grain, lamb and wool region, including provision of habitat and refuges for threatened woodland, migratory birds and other wildlife, connectivity with existing remnant vegetation, a valuable seed collection resource, stock shelter & improved grazing management.

Investment: $100,000

Pelican Island - Revegetation of Littoral Rainforest and Sand Swales

Pelican Island, part of Woregore Nature Reserve, is in the Hastings River near Port Macquarie, New South Wales. It is important feeding and roosting habitat for critically endangered shorebirds and contains endangered ecological communities, including littoral rainforest. Restoration has been ongoing for some years, most recently the past 3 years, with federal grant funds. Native vegetation is regenerating well and weed loads have been substantially reduced. However, there are areas of the island where disturbance from weeds was very high or where native vines are suppressing regeneration. We will plant and/or direct seeding these areas to assist in their restoration. Being an island, we can only gain access on certain days due to the tides.

Investment: $21,451

Mid West Estuaries - Creating Corridors for Wildlife

The Chapman River and Greenough River estuaries in the Geraldton area are included in one of 34 internationally recognised national biodiversity hotspots and support temperate coastal saltmarsh communities which provide habitat for birds including migratory species listed under the EPBC Act. This project will enable the City of Greater Geraldton to restore 78 hectares of a degraded riparian zone within these estuaries.

Investment: $59,500

Hexham Swamp – Revegetation

Hunter Water Corporation owns a Waste Water Treatment Works adjoining Hexham Swamp, Newcastle. Hexham Swamp adjoins and flows into the Hunter Estuary Wetlands Ramsar Site. It is listed in the Directory of Important Wetlands of Australia, and is an Important Bird Area. The Treatment Works site covers 85 hectares. It includes a waste-water treatment plant, remnant and riparian vegetation, a creek and open paddocks. This project will reinstate Coastal Foothills Spotted Gum – Ironbark Forest in the paddocks closest to Hexham Swamp & improve the riparian zone. The resulting vegetation will increase the extent of terrestrial woodland fringing Hexham Swamp, improve habitat for avifauna and arboreal mammals and improve water quality in Hexham Swamp.

Investment: $99,000

Hexham Swamp - reinstating native vegetation communities at Tank Paddock

Hexham Swamp on the edge of Newcastle is part of the Hunter Wetlands National Park. It is listed in the Directory of Important Wetlands of Australia, is an Important Bird Area and flows into the Hunter Estuary Wetlands Ramsar Site. It is also part of the Stockton-Watagans Regional Green Corridor, connecting the Great Eastern Ranges to the coast. The Swamp has a perimeter of 53 km, of which almost 90% has been cleared. A major project reinstating tidal flows to the swamp is underway. This 20 Million Trees proposal will reinstate Coastal Foothills Spotted Gum – Ironbark Forest in Tank Paddock adjacent to Hexham Swamp. The project will add value to the current 20 Million Tree project, further increasing the extent of terrestrial woodland fringing Hexham Swamp.

Investment: $97,805

Revegetation of Priority Corridors and Bushland in Perth's Eastern Region

Precedence is given to revegetating a priority north-south corridor in the City of Swan and a wildlife corridor for Carnaby's Black Cockatoos in the Shire of Mundaring. The project reconnects high value remnant vegetation identified in the National Wildlife Corridors Plan. Direct seeding and planting maintains high ecological values of the sites. A partnership with a local Aboriginal group has been established to revegetate a site with native trees and understorey species, to connect an adjacent Bush Forever site in Kensington Bushland. The project revegetates wetlands of significance frequented by endangered migratory bird populations in the City of Bayswater. South Perth sites will be revegetated for landscape resilience.

Investment: $100,000

Little Llangothlin Lagoon Ramsar Site - Restoring Critically Endangered Woodland

This project will restore 45ha of New England Peppermint Woodland Threatened Ecological Community within the Little Llangothlin Nature Reserve Ramsar Site. Revegetating previously cleared areas will link existing remnants of the terrestrial nationally critically endangered ecological community New England Peppermint Woodland with the aquatic nationally endangered ecological community Upland Wetland present at Little Llangothlin Lagoon. Little Langothlin Lagoon is internationally significant wetland (Ramsar site) supporting migratory waterbirds and threatened fauna. Restoring native vegetation will help to protect and maintain these habitat values. This project will expand a recent successful trial to re-establish 2.5ha New England Peppermint Woodland at the site.

Investment: $74,945

Aerial view of the Houtman Abrolhos Islands (Easter Group) off the coast of Western Australia © Department of the Environment and Energy

The Green Army

The Green Army is a hands-on, practical environmental action program that supports local environment and heritage conservation projects across Australia. The Australian Government has allocated more than $360 million for the programme over four years from 1 July 2015 to support 500 projects each year.

Community organisations, Landcare groups, natural resource management organisations, environmental groups, Indigenous organisations, local councils and others can apply to host a Green Army project.

To date eight Green Army Projects have been approved that directly benefits migratory birds and their habitat. The total investment on these projects is $1,728,000.

Protection and enhancement of habitat in Bass Coast - Phillip Island Nature Park, Victoria

The ongoing protection and re-establishment of penguin habitat across the Summerland Peninsula, focusing on revegetation and weed control works. The reduction/eradication of invasive weeds, such as boxthorn and kikuyu grass, from Short-tailed Shearwater (*Ardenna tenuirostris*) and other migratory bird habitats and the reintroduction of habitat-suitable vegetation. The reintroduction and preservation of Koala habitat, with a focus on revegetation with indigenous eucalyptus species. Mangrove rehabilitation and foreshore revegetation along the Western Port Ramsar site at Grantville, Corinella, Coronet Bay and Phillip Island. Protection and enhancement of native remnant vegetation across the Bass hills through revegetation and weed control works.

Reviving South Coast Wetlands (South) - Conservation Volunteers Australia

This project aims to improve the condition, extent and connectivity of coastal wetlands in the South East region. Project outcomes include establishing, improving and maintaining native vegetation, managing invasive weeds, basic vegetation and fauna surveys, and planting native vegetation. On-ground works at Wollumboola, Comerong Island and the Shoalhaven Estuary will help preserve breeding sites of the EBPC Act listed Little Tern and other migratory birds, and improve connectivity to surrounding National Parks.

Stage two and three biodiversity and habitat improvements works / Braeside Park - Parks Victoria

Native restoration activities throughout the Braeside Park will enhance biodiversity values, protect significant species and engage the community to foster improvements and sustainably utilise the Park's natural assets. Braeside Park is a diverse ecosystem of Red Gum Grassy Woodlands, heathland and wetlands and provides shelter for the Purple Diuris Orchid (*Diuris punctata*) and nationally significant migratory birds including the Latham's Snipe.

Hays Inlet Restoration Project 2 - Redcliffe Environmental Forum Inc.

This project will: (1) Restore regional ecosystems through weed control and replanting with local species; (2) Enhance and protect migratory bird habitats; and (3) Restore habitat for nationally-listed threatened species such as the Koala, Eastern Curlew and Australian Painted Snipe.

Improving Wetland Habitat for Mornington Peninsula's Threatened Species Project 1 - Mornington Peninsula Shire Council

Enhance habitat & connectivity for Eastern Curlew and Orange-bellied Parrot. Planting of suitable indigenous species at a range of sites, mostly in conjunction with Friends Group working bees.

An additional 22 Green Army Projects were approved which identified activities to preserve and/or protect migratory birds.

Activities included:

- Surveys
- Revegetation
- Community Engagement
- Habitat/Nature Reserve Building
- Weed control
- Fencing
- Feral cat control

Commonwealth Environmental Water Office

Murray-Darling Basin

The Murray-Darling Basin Environmental Water Knowledge and Research Project aims to improve the science available to support environmental water management. Through consultation with jurisdictions, water managers and scientific organisations priority research questions were identified that covered four themes: Vegetation; Fish; Food webs; and Waterbirds.

As part of the waterbirds theme the key knowledge gap identified was in-relation to which flow regimes best support recruitment of waterbirds and how do threats and pressures affect recruitment outcomes for waterbirds.

The research will focus on monitoring nests of three colonially-breeding waterbird species: Australian White Ibis; Straw-necked Ibis; and Royal Spoonbill at one of the priority research sites per year: (Macquarie Marshes, Barmah-Millewa or Narran Lakes).

The waterbird research component aims to produce information that will allow managers to better target water, vegetation and feral animal management actions to ensure 'event readiness' at nesting sites between flooding events and to maximise recruitment of waterbirds during flooding events.

Investment: $10 million over five years (to 2018/19) across four research themes, including waterbirds.

Macquarie catchment

Commonwealth environmental water (in conjunction with New South Wales environmental water) was delivered to the Macquarie Marshes in spring 2014 and winter-spring 2015.

Environmental water inundated approximately 7,683 ha and 10,145 ha of wetland habitat in the Northern and Southern Marshes subsystems in 2014 and 2015 respectively.

This provided refuge habitat in an otherwise dry catchment for a range of waterbirds, including internationally recognised migratory species. Four migratory bird species were observed in 2014 – the Sharp-tailed Sandpiper, Marsh Sandpiper, Common Greenshank, and Latham's Snipe were observed in 2014. Sharp-tailed Sandpiper and Latham's Snipe were also observed in 2015.

Commonwealth environmental water has also helped to support a range of wetland vegetation such as reedbeds and water couch, which provide important feeding and nesting habitat for waterbirds. In particular, lagoon habitats and mudflats have provided important feeding habitat for migratory shorebird species.

Investment: $361,607.56 for water use fees and charges associated with the delivery of Commonwealth environmental water in the Macquarie 2014–15 and 2015–16.

Gwydir catchment

Commonwealth environmental water (in conjunction with New South Wales environmental water) was delivered to the Gwydir Wetlands (including the Gingham Watercourse), and Mallowa Watercourse during 2014-15 and 2015-16 benefiting migratory bird species in the valley.

Waterbird observations are conducted as a joint effort between the NSW Office of Environment and Heritage and Commonwealth Long Term Intervention Monitoring. Monitoring in December 2014 and March 2015 observed 59 waterbird species in the Gingham and Lower Gwydir wetlands survey period including: six species (Common Greenshank, Latham's Snipe, Sharp-tailed Sandpiper, Glossy Ibis, Cattle Egret, Eastern Great Egret, and White-bellied Sea Eagle) listed under one or more international migratory bird agreements.

A relatively large flock of Latham's Snipe (19 birds) was recorded in the flooded sedgeland at Little Lagoon in the upper Gingham as well as two threatened species (Brolga and Magpie Goose) listed under the NSW *Threatened Species Conservation Act*.

Monitoring in November 2015 and March 2016 observed 45 waterbird species including: seven species listed under international migratory bird agreements (Common Greenshank, Latham's Snipe, Sharp-tailed Sandpiper, Marsh Sandpiper, Black-tailed Godwit, Eastern Great Egret, and Cattle Egret). One endangered species (Black-necked Stork) and two vulnerable species (Brolga and Magpie Goose) under NSW *Threatened Species Act*.

Commonwealth environmental water has also helped to support a range of wetland vegetation such as reedbeds and water couch, which provide important feeding and nesting habitat for waterbirds. In particular, lagoon habitats and mudflats have provided important feeding habitat for migratory shorebird species.

Investment: $595,528 in water use fees and charges associated with the delivery of Commonwealth environmental water in the Gwydir/Gingham Wetlands and Mallowa Watercourse during 2014-15 and 2015-16.

Great Barrier Reef Marine Park Authority

The Great Barrier Reef Marine Park Authority (GBRMPA) undertakes a number of activities that contribute to the conservation of migratory birds. Examples include:

- Development of the R*eef 2050 Long-term Sustainability Plan*, which includes actions to identify, protect and manage the habitats that support migratory birds, as well as monitor seabird populations.
- Informed by the 2012 Informing the Outlook for Great Barrier Reef Coastal Ecosystems (a technical report on the current status of the catchment and the threats it faces):
  - Development of hydrological spatial layer to identify catchment connections to support management of Great Barrier Reef coastal ecosystems (including migratory bird habitat).

  - Development of an ecological tool to establish a metric for valuing the biological, biogeochemical and physical processes occurring in the Great Barrier Reef catchment (including migratory bird habitat).
- Development and implementation of the *Seabird Monitoring Strategy for the East Coast of Queensland 2015-2020* with Queensland Parks and Wildlife Service
- Development and implementation of *The adaptive management strategy for seabirds on Raine Island National Park (Scientific)* with Queensland Parks and Wildlife Service
- Congdon, B.C., McDuie, F., Miller, M.G.R., Weeks, S.J., Steinberg, C. (2014) Critical seabird foraging locations and trophic relationships for the Great Barrier Reef. *(Project 6.3 Final Report - Critical seabird foraging locations and trophic relationships for the Great Barrier Reef)* **http://www.nerptropical.edu.au/publication/project-63-final-report-critical-seabird-foraging-locations-and-trophic-relationships**

National Environmental Science Programme

The National Environmental Science Programme is a long-term commitment to environment and climate research with funding of $25.5 million per year during the life of the programme.

The programme is building on its predecessors—the National Environmental Research Program and the Australian Climate Change Science Programme —to support decision-makers to understand, manage and conserve Australia's environment with the best available information, based on world-class science.

The $142.5 million National Environmental Science Programme is being delivered through six research hubs.

- the **Clean Air and Urban Landscapes Hub** supports environmental quality in urban areas with funding of $8.88 million.
- the **Earth Systems and Climate Change Hub** is furthering our understanding of the drivers of Australia's climate with funding of $23.9 million.
- the **Marine Biodiversity Hub** is researching Australian oceans and marine environments, including temperate coastal water quality and marine species, with funding of $23.88 million.
- the **Northern Australia Environmental Resources Hub** is supporting the sustainable development of our northern landscapes with funding of $23.88 million.
- the **Threatened Species Recovery Hub** is supporting the management of threats and improving recovery of threatened species with funding of $29.98 million.
- the **Tropical Water Quality Hu**b is researching coastal water quality and coastal management focused on the Great Barrier Reef and other tropical waters with funding of $31.98 million.

Information about **current projects being undertaken by NESP research hubs**.

International engagement in relation to migratory birds

Convention on the Conservation of Migratory Species of Wild Animals

The Convention on the Conservation of Migratory Species (CMS) is an intergovernmental treaty that is concerned with the conservation of wildlife and habitats on a global scale.

The Convention came into force generally in 1983 and Australia has been a Party to the Convention since 1991. There are currently 124 Parties to the Convention in total.

The Convention seeks to conserve avian, terrestrial and marine species that migrate across or outside national jurisdictional boundaries. Parties to the Convention must protect migratory species listed on its Appendices that live within, or pass through, their jurisdiction. The Convention includes two Appendices:

- Appendix I lists migratory species which are in danger of extinction throughout all or a significant proportion of their range. Once a species is listed on Appendix I, Parties are obliged to "endeavour to conserve and restore habitats, remove barriers to migration, control factors that are endangering the species and prohibit the taking of the species";
- Appendix II lists migratory species which are not endangered but have an "unfavourable conservation status", and which require international agreements for their management, as well as species with a conservation status that would benefit from international cooperation. Once listed on Appendix II, Parties are obliged to "endeavour to conclude agreements where these would benefit the species".

The EPBC Act imposes a domestic requirement that species listed in either Appendix must be added to the list of migratory species under the Act. The EPBC Act also makes it an offence to kill, injure, take or move listed migratory species in Commonwealth waters.

Historically, the Convention has always had a strong interest in the conservation of migratory birds. This is evidenced through the recent appointment of two individual experts to cover scientific and technical issues associated with migratory birds. The Convention has always had a number of specially appointed experts (referred to as CoP-Appointed Councillors) to address specific themes. There are currently 10 such Councillors covering a range of issues such as marine turtles, by-catch and climate change, with two experts devoted to birds.

While a great many migratory birds were included in the Appendices to the Convention at the outset, two bird species have been recently moved from Appendix II to Appendix I as a reflection of the concern surrounding their conservation status:

- Eastern Curlew, (*Numenius madagascariensis*), was included in Appendix I in 2011; and
- Great Knot, (*Calidris tenuirostris*), was included in Appendix I in 2014.

Following its inclusion on Appendix I, the Eastern Curlew was included on the list of species designated for concerted action under the Convention. Concerted actions were established under the Convention in 1991 and are designed to recommend initiatives to benefit a selected number of Appendix I species. Australia accepted the role of focal point for the Eastern Curlew and is progressing the development of an international Single Species Action Plan for the species through a number of forums.

Ramsar Convention

Australia is a signatory to the Convention on Wetlands of International Importance (see www.ramsar.org). The Ramsar Convention, as it is commonly known, is an intergovernmental treaty dedicated to the conservation and 'wise use' of wetlands.

The Ramsar Convention focuses on conservation of important habitats rather than species. Parties are committed to identifying wetlands that qualify as internationally significant against a set of criteria, nominating these wetlands to the List of Wetlands of International Importance (the Ramsar List) and ensuring the maintenance of the ecological character of each listed Ramsar site.

As at August 2016, Australia has 65 Wetlands of International Importance that cover a total of approximately 8.1 million hectares. Many of Australia's Ramsar sites were nominated and listed using waterbird-based criteria, and in some of these cases migratory shorebirds are a major component of the waterbird numbers (e.g. Roebuck Bay and Eighty-mile Beach Ramsar Sites in Western Australia).

East Asian – Australasian Flyway Partnership

The Partnership for the Conservation of Migratory Waterbirds and the Sustainable Use of their Habitats in the

East Asian–Australasian Flyway (East Asian— Australasian Flyway Partnership) was launched on 6 November 2006. A Ramsar regional initiative, the partnership is an informal and voluntary collaboration of effort focusing on protecting migratory waterbirds, their habitat and the livelihoods of people dependant on them.

The EAAF is one of nine major migratory waterbird flyways around the globe. It extends from within the Arctic Circle in Russia and Alaska, southwards through East and South-east Asia, to Australia and New Zealand in the south, encompassing 22 countries. Migratory waterbirds share this flyway with 45 per cent of the world's human population. The EAAF is home to over 50 million migratory waterbirds—including shorebirds, Anatidae (ducks, geese and swans), seabirds and cranes—from 207 species, including 33 globally threatened and 13 near threatened species.

Flyway partners include countries, intergovernmental agencies, international non-government organisations and the international business sector. A cornerstone of the partnership is the establishment of a network of internationally important sites for migratory waterbirds throughout the EAAF. The partnership operates via working groups and task forces, one working group and a number of task forces focus on migratory shorebirds.

International Single Species Action Plan for the Conservation of Eastern Curlew (*Numenius madagascariensis*)

The Eastern Curlew (*Numenius madagascariensis*) is the largest shorebird in the world. Its very large size (900 g) and very long bill (19cm) distinguish it from other similar species in Australian and the East Asian – Australasian Flyway. It is endemic to the flyway, breeding in Russia, Mongolia and China and migrating as far as New Zealand. Declining numbers at the species' staging and non-breeding sites prompted the Australian Government to list the species as 'Critically Endangered' under EPBC Act in May 2015. If the main threats continue, further decline or extinction is expected.

Acknowledging the severe decline of Eastern Curlew, the Australian Government initiated the development of an International Single Species Action Plan under the auspices of the East Asian – Australasian Flyway Partnership (EAAFP) with the support of Australia's bilateral migratory bird agreement partners Japan, China and the Republic of Korea and the *Convention on the Conservation of Migratory Species of Wild Animals* (CMS). International Single Species Action Plans are an important instrument to promote and coordinate activities that seek to protect and restore habitat, and to mitigate obstacles to migration and other controlling factors that might endanger species. Australia also recently developed an International Single Species Action Plan for Loggerhead Turtles in the South Pacific Ocean that was unanimously endorsed by relevant Range States and CMS in November 2014.

For the past two years, all Range States, CMS Parties, EAAFP Partners, relevant non-government organisations and researchers have been actively engaged in developing the Action Plan for Eastern Curlew. The Action Plan is designed to outline an internationally agreed list of activities necessary along the flyway, to improve the understanding of the species' status, to halt its decline and support its long-term survival. The Action Plan addresses key threats at important sites along the flyway, ranging from the breeding grounds, stop-over (or staging) and non-breeding sites. The mechanism of an International Single Species Action plan has been proven to be effective in improving and coordinating conservation efforts. The Action Plan is coordinated by the Far Eastern Curlew Task Force established under the EAAFP and is designed to be implemented by governments and non-government bodies.

The Single Species Action Plan provides an important tool for promoting and coordinating conservation at an international, national and regional level. The Action Plan provides guidance for Range States, CMS Parties, EAAFP Partners, conservationists, researchers and habitat managers over the next decade, while also providing a model for further advancing migratory bird conservation throughout the flyway.

Red Knot (*Calidris canutus*) landing, Ward Spit, South Australia ©Chris Purnell

Implementation of the Agreements by State and Territory Governments

Complied by state and territory representatives of the Wetlands and Aquatic Ecosystems sub-Committee

Relevant JAMBA Articles: II, IV, V, VI
Relevant CAMBA Articles: II, III, IV
Relevant ROKAMBA Articles: 2, 3, 4, 5

Summary

State and Territory agencies undertake a range of activities in their jurisdictions which protect migratory birds and their habitat. Since November 2014 activities have included: nomination of important migratory shorebird areas to the East Asian-Australasian Flyway Site Network; assessments and surveys of important habitat and important bird populations; completion of ecological character descriptions for Ramsar sites; habitat restoration and management programs; conservation assessments; management planning; weed and feral animal control activities; conservation status reviews; and educational activities.

州・テリトリー政府による協定の実行

湿地・水界生態系小委員会 州・テリトリー代表により編集

JAMBAの関連条項:II、IV、V、VI

CAMBAの関連条項：II、III、IV

ROKAMBAの関連条項：2、3、4、5

要約

州・テリトリーの代理機関は、渡り鳥とその生息地を保護している各管轄地において多岐にわたる活動を請け負っています。2014 年 11 月以来、活動には以下の内容が含まれています。その内容とは、東アジア・オーストラリア地域フライウェイ サイトネットワークに対する、渡りを行う岸辺の鳥の地域の指定、重要な生息地および重要な鳥類の生息数の評価と調査、ラムサール条約で取り決められている地点の環境特性の詳細の編集、生息地の回復と管理のプログラム、保存評価、管理プランの作成、雑草および野生化した動物の管理活動、保存状況の見直し、教育活動となっています。

各州和领地政府协议的实施

湿地与水生生态系统小组委员会（Wetlands and Aquatic Ecosystems sub-Committee）州和领地代表汇编

JAMBA相关条款： II, IV, V, VI

CAMBA相关条款： II, III, IV

ROKAMBA相关条款： 2, 3, 4, 5

总结

各州和领地机构在其管辖区进行一系列保护候鸟及其栖息地的活动。自 2014 年 11 月起，活动包括：向东亚——澳大利亚候鸟迁徙路线网络提名途径地内重要的迁徙滨鸟区；重要栖息地和重要鸟类种群的评估和调查；完成国际重要湿地生态特征描述；栖息地的恢复和管理项目；保护评估；管理规划；杂草和野生动物控制活动；保护状况评审；以及教育活动。

주 및 테리토리 정부의 협정 이행

편집: 주 및 테리토리의 습지 및 수생태 보전 소위원회
(Wetlands and Aquatic Ecosystems sub-Committee) 대표

JAMBA 관련 조항: II, IV, V, VI

CAMBA 관련 조항: II, III, IV

ROKAMBA 관련 조항: 2, 3, 4, 5

요약

주 및 테리토리 담당 기관은 관할 구역 내에서 다양한 활동을 통해 철새 및 그 서식지를 보호합니다. 2014 년 11 월 이후 활동으로는 동아시아-대양주 철새이동경로 지역 네트워크에 주요 섭금류 지역 지정, 주요 서식지와 주요 조류 개체수 평가 및 조사, Ramsar 지역 생태학적 특성 설명서 완성, 서식지 복구 및 관리 프로그램, 보존 평가, 관리 계획, 잡초 및 야생 동물 통제 활동, 보존 상태 평가, 교육 활동이 있습니다.

Queensland

Policy initiatives

Queensland Parks and Wildlife Service (QPWS) Adaptive Management Strategy for Seabirds on Raine Island National Park (Scientific)

Strategy drafted to set out a direction to protect this important seabird rookery and guide improved management and monitoring. Strategy drafted and approved by Raine Island Science Advisory Group. Who: Queensland's Department of Environment and Heritage Protection (EHP), Great Barrier Reef Marine Park Authority (GBRMPA).

Seabirds 2015-2020

Identifies sites and visitation strategy for improving the quality of seabird monitoring data, some sites are also significant seabird sites as previously described in the Coastal Bird Monitoring and Information Strategy.

Updates to Ramsar site documentation

Understanding of Queensland's five Ramsar sites, including their waterbird values, is being improved with updates underway to the Ramsar Information Sheets for each site, including Moreton Bay, Great Sandy Strait, Shoalwater and Corio Bays Area and Bowling Green Bay. EHP is preparing Ramsar Management Summaries for Ramsar sites. These summaries include the general principles for management and outline the ecological character of the wetlands within the site for consideration when managing Queensland protected areas containing Ramsar sites. The summaries will help inform future management plans as they are developed or reviewed. Data and information on waterbirds and their habitats are included in these summaries. Draft Ecological Character Descriptions have been completed for all Ramsar sites in Queensland and are presently being finalised for release. Updated fact sheets outlining the values of the Ramsar sites are being produced for all Queensland Ramsar sites for communication and education purposes. These include a subsection on significant waterbird and habitat values.

EHP is currently in the process of reviewing the status of threatened migratory shorebird species given changes in status at a federal level for several species.

Management, awareness and education initiatives

Addition of the South-East Gulf of Carpentaria: Karumba-Smithburne (Delta Downs) site to the Network for the East Asian-Australasian Flyway Partnership – Jan 2015

The successful nomination of this site is recognition of its significant migratory shorebird values and the East Asian-Australasian Flyway Partnership as an important mechanism helping to protect migratory waterbirds and their habitats. Nomination onto the Network brings local and international recognition of key sites, enhanced opportunities for collaboration and increased opportunities for education and management, as well as research. The Queensland Wader Study Group initially proposed that the EHP support the inclusion of the South East Gulf of Carpentaria in the Network and the Study Group's data has been integral to the nomination. The preparation of the nomination was supported through an EHP Protection Indigenous Land and Sea Grant. The Morr Morr Pastoral Company Pty Ltd, with the support of the Traditional Owners, Carpentaria Shire Council and the Carpentaria Land Council Aboriginal Corporation proposed nomination of the site, which includes one of the most important sections of the larger South East Gulf of Carpentaria shorebird area.

Mangrove boardwalk through Kooragang Island, near Newcastle New South Wales © Department of the Environment and Energy

The site supports over 20,000 migratory waterbirds of at least 20 species, including internationally important numbers of a range of species. It incorporates approximately 20,000 hectares of intertidal wetland (including Unallocated State Land and land of the Delta Downs pastoral lease).

QPWS Great Barrier Reef region habitat restoration projects

The purpose of the project is to restore or maintain breeding habitat for seabirds and includes: Boydong Island rat eradication, Three Isles guinea grass control, Capricorn Cays mice eradication, Rocky Isles Mossman River grass and lantana control, Quoin Island Pisonia restoration, Frankland/Barnards rats planned for destruction, Frankland Islands ants control, Low Isles ants control, Eshelby guinea grass control, Lady Elliot Island weed control, Shoalwater CP/Capricorn Coast MP pig control and Tryon big headed ant eradication.

Marine Park Management

Education and enforcement of Zoning Plan provisions (QPWS). Time frame: ongoing

Description: maintenance of shorebird signage and repositioning of shorebird signage at Lota Esplanade. Marine Park patrols incorporating education on shorebird disturbance provisions. Advice and support to public regarding roost site protection at Wynnum.

Marine Park licensing

Protection and management of shorebirds and their habitat (QPWS). Time frame - ongoing

Description: assessment of potential impacts to shorebirds from proposals affecting the marine park (e.g. tourism programs, research, organised events) and management of potential impacts by negotiating details of proposal and applying permit conditions.

Other initiatives include: A range of pages on shorebirds and other waterbirds have been released on EHP's Wetland*Info* website – Queensland's first stop shop for wetland management resources. This includes pages on managing for ecological requirements, assessment, monitoring and ecology.

Monitoring and research initiatives

Name: Smart Seabird Monitoring

Researching "autonomous" methods for monitoring remote seabird breeding locations. Several trials have been completed, most data analysed, first operational deployment (North West Island, wedge-tailed shearwaters) completed. Who: DEHP, GBRMPA, Conservation Metrics

Michaelmas Cay: evaluating the effects of changes in topography and vegetation on seabirds, culture and ecotourism values

Determine if changes in shape and size of the Cay are of concern or just seasonal or longer term fluctuations. It also aims to determine the impact of these changes on natural, cultural and ecotourism values and to make recommendation for future management of the Cay.

Who: QPWS, GBRMPA, DNRM, Dawul Wuru Aboriginal Corporation, commercial tourism operators. Initially a 5 year project 2015-2020.

Identify and map coastal bird breeding sites in Moreton Bay

Monitor four sites as being, or having potential for, breeding sites particularly for Little Tern, (*Sterna albifrons*), during October to January. Enter all data on Coastal bird atlas. Compliance and education patrols will also be undertaken by QPWS marine rangers in critical areas. Aim: locate and protect vulnerable resident coasted bird breeding sites from impacts such as beach vehicular traffic. Who: QPWS, EHP, Queensland Wader Study Group (QWSG). Time frame: 4 sites twice per year – reviewed annually.

Counts at critical HAT sites in Moreton Bay

Support the work of QWSG in their regular high tide count program for normally inaccessible locations within the bay and to evaluate management measures at specific locations. Program has been running since 2006 and undertakes full shorebird counts at several locations. It evaluates and documents disturbance events and issues as well as conducting education and compliance. All records submitted to Wildnet. Who: QPWS and QWSG. Time frame: Ongoing and conducted on a quarterly basis

Eastern Australia Waterbird Aerial Survey – Queensland component supported by the Queensland Government

The information from the survey is used to monitor waterbird fluctuations over time and represents one of Australia's most important long-term data sets. It provides vital data and information on waterbird species, informing jurisdictions about waterbird abundance, distribution and population trends in eastern Australia. Who: NSW Office of Environment and Heritage, Victoria Department of Environment and Primary Industries, Government of South Australia Department of Environment Water and Natural Resources, University of New South Wales and Queensland Government. Time frame: 1983-2017. Description: The aerial surveys of waterbirds in eastern Australia are a cross-jurisdictional collaborative program that monitors ten survey bands that intersect Queensland, New South Wales, Victoria and South Australia. It is a research project that has been conducting extensive surveys of waterbirds in eastern Australia for 30 years. An area of 2,697.00Km² is systematically sampled with ten survey bands 30km in width, spaced every 2° of latitude.

Recovering Australia's migratory shorebirds' - Australian Research Council (ARC) Linkage project

Developed to address significant declines in migratory shorebirds (some species more than 75% in 20 years), with several species changing status to critically endangered under the EPBC Act. Specifically, the project will deliver a number of benefits, including determining population status and understanding threatening processes, understanding what management interventions can be implemented, prioritisation of management efforts and evaluation of the effectiveness of current policy, planning and management initiatives. Who: The ARC Linkage project was developed collaboratively between the University of Queensland, the Queensland Department of Environment and Heritage Protection, the Queensland Wader Study Group and the Burnett Mary Regional Group. The proposed project is centred on recovering Queensland's shorebirds and includes the Great Sandy Strait as a case study area.

Other initiatives: The Queensland Government is working with the University of Queensland and the QWSG to update the available data sets on shorebirds as surveyed by the Queensland Wader Study Group, a citizen science group that undertakes regular surveys of shorebirds in Queensland.

New South Wales

Saving our Species (SoS) program

The NSW Government launched the Saving our Species (SoS) program to meet the conservation requirements of selected species. Actions under the program include targeted conservation projects, monitoring, community awareness raising and education. Conservation of listed threatened migratory species such as the Sanderling (*Calidris alba*), Black-tailed Godwit (*Limosa limosa*), Broad-billed Sandpiper (*Limicola falcinellus*), Curlew Sandpiper (*Calidris ferruginea*), Terek Sandpiper (*Xenus cinereus*), Greater Sand Plover (*Charadrius leschenaultii*), Lesser Sand Plover (*Charadrius mongolus*), Masked Booby (*Sula dactylatra*) and Little Tern (*Sternula albifrons*) will be assisted under this program. NSW is currently developing a targeted approach for managing partnership species (Terek Sandpipers, Broad-billed Sandpipers, Curlew Sandpipers, Black-tailed Godwit, Sanderlings).

In the interim, management actions identified for these threatened migratory shorebird species include:

- Undertake regular 2-yearly coordinated survey to assess distribution and population size of partnership species.
- Review survey data to identify key foraging sites along the NSW coast.
- Increase community awareness of migratory waders
- Liaise with planning authorities to minimise the loss of habitat from development.

Under the program, 11 priority Little Tern sites along the NSW coast have received funding. Actions being implemented include: pest control, weed removal, community education and engagement, monitoring of breeding success, and active management of nests to avoid tidal inundation, human disturbance and egg/chick predation.

Little Terns (*Sterna albifrons*)

Since 2012 NSW has monitored fledging rates of little terns and other threatened beach-nesting shorebirds at over 25 major nesting sites along the NSW coast. Where feasible, primary threats to fledgling have been managed at these sites, including introduced red foxes (*Vulpes vulpes*), human disturbance, domestic dogs, inundation and

native avian predators (corvids and gulls). Observed fledging rates have been variable irrespective of management, but estimated rates at sites with management such as fox control are 50% higher than unmanaged sites. Despite management efforts, the number of breeding pairs across all sites has been declining at about 2.5% per year since 2001.

Hunter Estuary Wetlands

The Tomago Wetlands within the Hunter Estuary Wetlands Ramsar site is a key site in the East Asian-Australasian Flyway, with over 5000 Sharp-tailed Sandpipers (*Calidris acuminata*) recorded during the 2014/15 summer. Significant sections of key migratory shorebird roosting habitat on the Kooragang Dykes have been repaired and raised. Mangrove seedlings are being removed and 18 hectares of saltmarsh has been restored as migratory shorebird habitat through mangrove removal.

Towra Point Ramsar Site

Following indications of changed ecological character at the site, in 2014 a Ramsar preliminary assessment noted a reduction of shorebird diversity and numbers. NSW is working with the Australian Government to start the formal assessment in 2016. The site is closed to public access, it operates a threat abatement program for foxes and a monitoring program for Little Terns.

Extension of Ramsar site at Narran Lake Nature Reserve

In February 2016, the Ramsar site was extended by 3,104 hectares to a total of 8,447 hectares. The extension captures the full nature reserve floodplain and includes more breeding and feeding habitat for waterbirds. The site can support more than 68 waterbird species, 12 of which are listed under international agreements.

Programs to support waterbirds

Environmental watering of key waterbird habitat in NSW is carried out annually to maintain and enhance migratory shorebird habitat in iconic wetlands across five key catchments. These habitats support many migratory bird species including Eastern Great Egret, Cattle Egret, Latham's Snipe and Sharp-tailed Sandpiper. Long-term Watering Plans are being prepared for NSW Murray-Darling Catchments, which will set targets for maintaining habitats for waterbirds within key wetland systems such as the Macquarie Marshes, Gwydir Wetlands, Lowbidgee wetlands and the Murray River. Maintenance of migratory bird habitat is supported through statutory water sharing plans which aim to maintain system health. This provides important water flow protection for numerous inland habitats. These include Narran Lakes and Menindee Lakes which provide critical habitat for very high numbers of migratory birds.

Environmental Water

OEH managed the delivery of environmental water specifically to provide foraging habitat for migratory shorebird species in the Western Lakes (Lower Murrumbidgee), Fivebough-Tuckerbil Ramsar site (mid-Murrumbidgee), Macquarie Marshes and Gwydir Wetlands in 2014-16.

Waterbird monitoring

The Aerial Waterbird Surveys of Eastern Australia (AWSEA) contributes to 33 years of data collected across six survey bands in Eastern Australia including major wetland sites in the Murray-Darling Basin. This program is coordinated by the University of New South Wales with contributions made by the NSW Government for the NSW portion.

The NSW Government undertakes counts of waterbirds in the Macquarie Marshes, Gwydir Wetlands, Lower- and Mid-Murrumbidgee Wetlands, Central Murray Forests and Narran Lakes, to complement data collected through the AWSEA, and to support the adaptive management of environmental water by the NSW and Commonwealth Governments. Many of these areas support Ramsar wetlands that contain significant breeding habitat for colonial waterbird species listed under JAMBA, CAMBA and/or ROKAMBA.

Australian Capital Territory

Migratory Species Action Plan

The *Nature Conservation Act 2014* (ACT) requires the development of an Action Plan for Migratory Species to cover those listed species likely to occur in the ACT, as regular or opportunistic migrants. Listed migratory species are those species listed under the *Environment Protection and Biodiversity Conservation Act 1999* that are subject to international agreements.

The Action Plan will help inform environmental impact assessment processes, but also identify strategies to improve management of the habitat of migratory species. An Action Plan for migratory species maps their known critical and potential habitats and proposes management strategies to ensure their persistence.

A draft Migratory Species Action Plan has been prepared for listed migratory species. There are 31 listed migratory species that are known to have occurred in the ACT. Consultation on the Migratory Species Action Plan will occur early in 2016-2017.

Latham's Snipe monitoring project

The 201 hectare Jerrabomberra Wetlands Nature Reserve is a unique wetlands complex in the heart of Canberra, popular for bird watching, education and walking. Some areas have restricted access to protect important habitat for birds such as the Latham's Snipe.

Funding of $25,000 has been provided to the Woodlands and Wetlands Trust (the Trust) to help with a joint Japanese–Australian project to monitor the migration of Latham's Snipe. Latham's Snipe is one of many bird species that regularly migrate to the ACT each year that are listed in international conservation agreements and conventions. The funding is part of the larger Japanese–Australian Latham's Snipe Project and will enable the Trust to fit satellite trackers to three birds at Jerrabomberra Wetlands in spring and summer late 2016 early 2017.

Victoria

Understanding of Victoria's 11 Ramsar sites, including their waterbird values, is being improved with updates underway to the Ramsar Information Sheets and Ecological Character Descriptions (ECD) for each site.

Each site will have an ECD addenda that includes:

Adult and young Red-tailed Tropicbirds in their nest on Lady Elliot Island in the Great Barrier Reef, Queensland © Graeme Chapman

- a summary of the amendments made,
- the criteria met at the time of listing and that are currently met,
- a review of the critical components, processes and services (including additional critical CPS at some sites),
- a review of Limits of Acceptable Change (including additional LAC for some sites),
- a review of threats to ecological character (including updates), and
- an assessment of site status against the LAC (Ramsar Rolling Review).

The addenda incorporate a range of recent data and information relating to waterbirds. The Victorian government is also reviewing the monitoring requirements for the states Ramsar sites and updating boundary descriptions for each site.

Seven of the 11 Victorian sites have updated management plans that are embedded in regional waterway strategies which were completed in 2014. The regional waterway strategies provide a single, overarching planning document for waterway management in each region, they were developed by waterway managers (catchment management authorities) in partnership with other regional agencies and boards involved in natural resource management as well as Traditional Owners and regional communities.

Regional waterway strategies include all waterway types (wetlands, rivers and estuaries) and are based on a standard risk assessment and prioritisation process that identifies high value waterways, and the threats impacting them and prioritises management activities, which may aim to reduce threats or protect high value waterways. A wetland was higher priority if it was a Ramsar Site, migratory shorebird site, colonial nesting bird site, an Important Bird Area or supported threatened wetland dependent flora and fauna (including waterbirds).

The remaining Ramsar sites have stand-alone plans. Gippsland Lakes Ramsar Site Management Plan was renewed in 2015. Western Port Ramsar Management Plan is nearing completion and will be published before the end of 2016. Edithvale-Seaford Wetlands and the Port Phillip Bay (Western Shoreline) and Bellarine Peninsula Ramsar site management plans are currently being renewed.

Support has been provided to the University of New South Wales' cross-jurisdictional Eastern Australia Waterbird Aerial Surveys, which provides a significant long term data set on waterbirds and their habitats.

Tasmania

Wildlife Management Branch, Department of Primary Industries, Parks, Water and Environment

Annual surveys have been conducted and monitoring of migratory shorebirds continue, with statewide waterbird surveys conducted in February 2016. Ramsar sites that are included, or partly included, in these surveys are; Moulting Lagoon, Apsley Marshes, Logan Lagoon, Orielton Lagoon and Interlaken (Lake Crescent). Annual winter bird surveys of the Moulting Lagoon and Apsley Marshes Ramsar sites have been conducted each July. Monitoring of Short-tailed Shearwater breeding colonies continues, with twice yearly surveys at sites in the Furneaux Islands and other locations across Tasmania.

BirdLife Tasmania

BirdLife Tasmania has contributed to the implementation of the three bilateral migratory bird agreements in the following ways:

- Ongoing Summer and Winter Shorebird counts (migratory and resident species) have been undertaken in the southeast, east, northeast, north and northwest of Tasmania as part of BirdLife Australia's Shorebirds 2020 project. The southeast Tasmania data set extends from 1963 to the present, making it the longest time series of population data on migratory shorebirds in Australia.
- Submissions to Federal Department of Environment regarding EPBC listing and up-listing of migratory birds (three species of shorebirds and two species of woodland birds present in Tasmania, based on historical data set).
- Inventories of migratory shorebirds undertaken during mapping surveys of beach-nesting shorebirds. These surveys are of sandy beaches around Tasmania, with more than 350 beaches now surveyed, many at approximately 5-yearly intervals.
- Contributed to national efforts to estimate population sizes of 37 species of migratory shorebirds recently included in 2015 Wildlife Conservation Plan for Migratory Shorebirds under EPBC Act.
- Contributed to waterfowl and shorebird counts in Moulting Lagoon organised by DPIPWE.
- Contributed to banding and geo-locator attachment on migratory shorebirds on King Island organised by the Australasian Wader Studies Group of BirdLife Australia.
- Ongoing surveys of wetlands on King Island and inter-tidal areas on Flinders Island for migratory shorebirds.
- Ongoing surveys and limited monitoring of Fairy and Little Terns at breeding colonies.
- Supported higher-degree students' research efforts into Short-tailed Shearwaters in Tasmania, including supervision of one PhD study.
- Extensive community engagement efforts regarding dog management, weed and marine debris removal in coastal areas, providing educational and interpretive materials to participants.
- Extensive community engagement efforts with Coastcare groups to educate members about resident and migratory shorebirds.
- Supported community groups removing invasive plants from shearwater colonies in southeast Tasmania.
- Collaborated with NRM South and University of Tasmania in development and promotion of saltmarsh monitoring app for smart phones.
- Supporting material comprised saltmarsh bird poster and plant identification book.

- Collaborated with five southern Tasmania Councils and NRM S in "South East Regional Shorebird Alliance" (SERSA). SERSA won Tasmanian Landcare award for Government Partnerships with Landcare (**http://www.nrmsouth.org.au/south-east-regbirds-alliance/**)

Prepared by Janet Smith, Private Land Conservation Program, Natural and Cultural Heritage Division, Department of Primary Industries, Parks, Water and Environment

South Australia

South Australia is committed to the conservation and protection of migratory shorebirds through both government led and community-driven initiatives. The Department of Environment, Water and Natural Resources (DEWNR) supports migratory shorebirds through a series of initiatives including the Samphire Coast Icon Project (SCIP), funded through the Natural Resources, Adelaide & Mount Lofty Ranges and Australian Government, the Adelaide International Bird Sanctuary initiative (AIBS), funded through State Government and the Coorong, Lower Lakes and Murray Mouth Recovery Project (CLLMM) funded through the Australian and South Australian Governments. Additionally, DEWNR supports migratory birds and their habitat through the development of environmental watering proposals submitted to water holders and environmental watering actions targeting migratory birds.

A number of organizations in South Australia lead the community-based contributions towards supporting migratory shorebirds, such as the Friends of Shorebirds South East (FOSSE), the Friends of Adelaide International Bird Sanctuary (FOAIBS), the Australasian Wader Study Group (AWSG) and several universities, who provide critical research and student-based projects to better understand the shorebird related ecosystems.

Activities across these groups and smaller community teams provide information on annual shorebird populations, site utilization, habitat identification, mapping of important sites and threats along the coast of South Australia (focused on the South East of the state, the Adelaide Coastline and Eyre Peninsula). A few key highlights of this work include:

- In the South East, protection of shorebirds has been incorporated in works programs through expansion of a fox threat abatement program to over 90,000 Ha aimed at protecting beach nesting shorebirds. Additionally, FOSSE has undertaken some work examining the impact of disturbance on shorebirds to help provide further evidence of this and its role in population decline.
- Natural Resources, Adelaide & Mount Lofty Ranges shorebird population monitoring within Gulf St Vincent (the greater Adelaide region) – see **http://birdlife.org.au/documents/SC-Shorebird_population_monitoring_report_GSV-2015.pdf** for further information.
- Habitat mapping across the AIBS with an overlay of Off-Road Vehicle usage.
- Natural Resources Eyre Peninsular, Natural Resource Management Alinytjara Wilurara, and the Eyre Peninsula Local Government Association have instigated a project to prepare a cohesive, region wide strategy for the sustainable management of visitor access to coastal areas of the Eyre Peninsula and Far West Coast to limit the potential disturbance of shore nesting birds.
- A joint project of FOSSE, the Victorian Wader Study Group and Natural Resources, Adelaide & Mount Lofty Ranges to attach geolocators to migratory shorebird species has identified important local habitats and movement, departure dates and migration routes.

This activity provides evidence and information for better management of migratory shorebirds and their habitats in the state. In the future, this information could permit the identification of additional valuable migratory shorebirds sites in the state. An important outcome of this work has been a recent decision to revise the commercial harvesting of beach wrack on the coasts of the South-East to minimize the disturbance of nesting shorebirds by avoiding harvesting during peak use periods and avoiding specific locales.

Importantly a number of education events aimed at raising awareness of shorebirds, their habitats and the threats to them are undertaken in South Australia. The events include:

- The Adelaide Flyway Festival, held in October to celebrate the arrival of migratory birds back to the Adelaide region for the summer. Approximately 2,500 to 3,000 people attended and supported local businesses demonstrating social and economic benefits associated with the Adelaide International Bird Sanctuary initiative.
- "the dog's breakfast" – an event in the South East aimed at dog owners in the region who visit the beach to learn the best ways to share the beach with beach-nesting and migratory shorebirds.
- Annual workshops with a focus on reaching out to managers and planners in the Adelaide region about migratory shorebirds to co-design changes needed to protect shorebirds.
- Annual workshops for tourism stakeholders and training observers to participate in population counts in the Adelaide region.
- Installation of awareness raising posters highlighting the species that use beaches and guidelines users can adopt to protect shorebirds and their habitat.

A community project about to get underway in the region is the Milang Foreshore and Snipe Sanctuary Project on the shores of Lake Alexandrina. The project, co-developed with the local community, seeks to maintain and continue recovery of native habitat and feeding grounds for threatened migratory waterbird species at Milang, specifically the Japanese Snipe (*Gallinago hardwickii*). Key actions to be undertaken by the project aim to limit invasive species encroachment in the area through weed control, fencing, signage, revegetation and infrastructure to allow future environmental watering of the wetland habitats. The project will also build an interpretive trail through the site, including a viewing platform and bird hide, to improve community understanding and awareness of waterbirds and values of the Ramsar Wetland building their capacity to support. The project is jointly funded by the Australian and South Australian Governments.

Adelaide International Bird Sanctuary (AIBS)

The Adelaide International Bird Sanctuary has a number of activities seeking to deliver protection for migratory shorebirds through the creation of the Adelaide International Bird Sanctuary. Much of the sanctuary lies adjacent to the Upper Gulf St Vincent Marine Park and is second only to the Coorong as the longest continuous coastal reserves in the state. Since the last update there are a number of activities that have occurred.

In addition to a Facebook page: **https://www.facebook.com/adelaideinternationalbirdsanctuary/**, the AIBS team use social media and e-newsletters to regularly communicate with over 1000 members of the public. Throughout 2015 several public events were held to raise awareness and inspire people about the migratory shorebird story and the significance of the AIBS. This has included a two day ecology summit, attended by over 250 people and the Inaugural Adelaide Flyway Festival held in October 2015 at St Kilda.

Importantly, a national park and management plan is being created for the AIBS to ensure long term protection to support and give effect to its proposed nomination and inclusion in the East Asian-Australasian Flyway Partnership, to become an EAAF Network site in 2016. The creation of a National Park for the AIBS is being undertaken in collaboration with the four local councils and Kaurna, Aboriginal community leaders.

To develop the management plan a series of four expert workshops are being held to consider the community and stakeholder input to protect shorebirds of the AIBS. An important outcome is the development of expert-advised shorebirds indicators to assist with understanding critical ecological processes needed for shorebird habitat and the tracking of these indicators to understand the effectiveness of the AIBS.

The Coorong and migratory shorebirds

January 2016 monitoring of waterbirds in the Coorong undertaken by Associate Professor Paton of the University of Adelaide has counted over 185,000 waterbirds from 57 species. More than half (over 93,000) of these waterbirds were using the South Lagoon, with numbers of Red-necked Stints (*Calidris ruficollis*) exceeding 10,000 birds although this is about half that of the previous year. The abundance of Curlew Sandpiper (*Callidris ferruginea*), were below the long-term median with numbers at about 30% of the 2015 abundance. This is consistent with a long term decline in the numbers of this species being observed locally. Positively, more than a thousand Sharp-tailed Sandpipers (*Calidris acuminata*) were observed in the South Lagoon, higher than the previous year. Also, 2016 was the first year since the end of the millennium drought in 2010 when Common Greenshanks (*Tringa nebularia*) exceeded their long-term median abundance in the Coorong.

Of concern were the observations that various shorebirds (sandpipers, stints) continued to spend 80-90% of their time foraging, indicative of poor food resources within the site. The presence of a small number of dead, emaciated shorebirds (red necked stints) in the southern Coorong was consistent with some birds failing to secure sufficient food.

Associate Professor Paton has indicated that the poor performances of some of the shorebirds and herbivorous waterfowl in the southern Coorong is linked to the poor condition of Ruppia tuberosa. Abundances of seeds and turions in January 2016 were around 1% and 20% of their historic levels, respectively. Associate Professor Paton has concluded that in order to effectively support migratory shorebirds and other waterbird species in the site, action to improve the inundation of habitats in the Coorong is required in addition to the provision of environmental water. The South Australian Government is presently considering the need for further activities to support the health of the Coorong.

Western Australia

This report provides an update on actions across government and non-government organisations conducted since November 2014.

Planning, Policy, Protection

In 2015 a revision of the threatened species notices and update of the conservation status of migratory birds protected under international agreements, which are listed as 'fauna in need of special protection' under the *Wildlife Conservation Act*. The listing seeks to maintain consistency with the listing of migratory species under the *Commonwealth Environment Protection and Biodiversity Conservation Act 1999*.

In 2015, the State Government prepared Condition Statements for the Becher Point, Forestdale and Thomson Lakes, and Peel-Yalgorup System Ramsar sites. These Condition Statements provided updated information on condition, pressures and management response as well as an assessment of condition against the Ramsar listing criteria and the Limits of Acceptable Change, and identification of knowledge and management gaps. The Ramsar site evaluations which lead to the preparation of these Condition Statements is the most extensive conducted since the publication of the Ecological Character Descriptions for Becher Point and Peel-Yalgorup System Ramsar sites in 2007 and for Forrestdale and Thomsons Lakes Ramsar site in 2009.

The State Government released the draft *Perth and Peel Green Growth Plan for 3.5 million* (strategic assessment) for public comment in December 2015. The draft Plan includes a conservation program for protection of MNES and State environmental values including a suite of actions to protect Ramsar wetlands, migratory birds and wetlands of regional and State significance

The Esperance Recherche Parks and Reserves Management Plan was completed which includes a number of management actions that pertain to managing, protecting and monitoring the Ramsar listed wetlands with respect to their hydrology and biological assets (though note that resources to conduct these actions have been significantly reduced with minimal recurrent allocation to under 'care and maintenance' of the bore monitoring system).

Other activities include:

- A 5 Year Threatened Species Information and Protection Program (TSIPP) commenced in 2015. The program aims to mitigate the impacts of threatened and migratory species including shorebird and seabirds from the potential impacts of recreational activities and associated impacts along the Exmouth Gulf, Pilbara coast and offshore islands.
- Commenced a CALM Act management plan for 50 inshore Pilbara Islands Nature Reserves involving migratory shorebird surveys and mapping key feeding and high tide roost sites.
- Developed island quarantine procedures for the Pilbara Islands Nature Reserves including fit out of a quarantine building for storing field equipment.
- Commenced updating Island Quarantine Protocol and State wide Conserving WA's Islands brochure which includes actions for achieving reduced quarantine risks to island habitats. The brochure will be available electronically and in hard copy in late 2016.
- Creation of a multi-agency planning team to oversee the creation of a detailed wetlands management operational plan ahead of the system becoming a formal conservation reserve in the next few years.
- Land tenure acquisitions totalling approx. 40ha for conservation purposes to buffer expanding urban subdivision and rural developments adjacent to the Vasse-Wonnerup Ramsar site.
- Local area conservation strategy developed for Owingup/Boat harbour Complex with Conservation Council and planning has begun for a conservation reserve to protect habitat of Fairy terns.

Masked Booby (*Sula dactylatra*) on Roach Island, Lord Howe Island Group © Ian Hutton

On-ground Management

Activities include:

- Feral pig and goat control along the Lesueur National Park (A42032) western wetlands and lagoon system.
- African Boxthorn weed eradication program and rehabilitation of Turquoise Coast Island Nature Reserves including; Boullanger, Whitlock, Favorite, Tern and Osprey Island Nature Reserve (A29251), Beagle Islands Nature Reserve (A26411), Lipfert Milligan Etc. Island Nature Reserve (A29259).
- Weed control on Lancelin & Edward Islands Nature Reserve (A24979).
- Ongoing rehabilitation and weed control at Lake Thetis TEC – Nambung National Park (A24522).
- A feral animal control program has reduced the abundance of camels, donkeys and horses.
- A broadscale 1080 aerial baiting program has significantly reduced feral cats occupying the Fortescue Marsh.
- The Pilbara Mesquite Management Committee is managing an 18 km infestation of Parkinsonia (Parkinsonia aculeata) upstream of the Fortescue Marsh. Over 40,000 individual Parkinsonia plants were treated during the 2015/16 FY.
- Over 300 hectares of priority invasive weed species have been controlled at the Fortescue Marsh.
- Temporary fencing installed at Point Walter Spit (Swan River) to minimise the impact of recreational disturbance on nesting and roosting birds. Undertaken by City of Melville in collaboration with BirdLife Australia and Swan River Trust.
- Typha control and other weed control conducted at Thomsons Lake.
- Dune restoration works at Becher Point.
- Fence maintenance to restrict unauthorised access into the sites at Thomsons Lake and Becher Point.
- Water supplementation at Thomsons Lake –water quality and invertebrate data has been collated from the monitoring undertaken by other agencies.
- Fox and rabbit control at Thomsons Lake.
- Weed control on 'Manners Block' to the north of Esperance Lakes system.
- Weed control and herbivore fencing at Vasse-Wonnerup Ramsar site associated with fringing vegetation revegetation programs – average approx. 8-10ha per year and 40ha total since 2008.
- Monthly fox baiting on those portions over the Vasse-Wonnerup Ramsar site overlying the Tuart Forest National Park – approx. 300ha.
- Experimental trials over the summer months over the Vasse-Wonnerup Ramsar site using a portable Oxygenation Plant to alleviate water quality parameters conducive to algal blooms and mass fish deaths.
- Feral animal control, deer, pigs, foxes at Owingup/Boat harbour Complex.
- Temporary fencing of nesting colonies of Fairy Terns.
- Weed and feral pig and fox control at Muir Byenup Ramsar site.

Monitoring

Monitoring activities undertaken in Western Australia include:

Monitoring and management of Fairy Tern breeding and roosting colonies involving citizen science participation through the SW Fairy Tern Monitoring Program (Conservation Council of WA)

Annual beach cast marine debris surveys. 2016 target – remove and classify marine debris from >50km of coastline (assessment of micro plastics to be included in next survey)

Intertidal reef condition monitoring (algae and invertebrates) of coastal and offshore island reef platforms.

29 shorebird surveys have been conducted in the Ningaloo Marine Park and the Exmouth Gulf between Dec 2014 and July 2016

Annual Shorebirds 2020 counts continue at the following sites: Roebuck Bay and 80 Mile Beach (see MYSMA below), Barrow Island, Exmouth Gulf and Ningaloo Coast, Shark Bay and Carnarvon, Geraldton, Hutt Lagoon, Leeman Lakes, Jurien coast, Guilderton, Swan Coastal Plain lakes, Swan and Canning Rivers, Rottnest Island, Garden Island, Peel-Yalgorup, Wagin and Katanning lakes, Leschenault Estuary (new site added in 2016), Vasse-Wonnerup and Broadwater, Muir-Unicup, Hardy Inlet, Albany, Wilson Inlet, Upper Kent River Catchment, Hopetoun, Parry, Irwin, Walpole and Broke Inlets, Owingup Swamp, Lake Gore, Warden Lakes, Esperance, Nuytsland Nature Reserve. Some of these sites are counted more often than annually.

Monitoring Yellow Sea Migrants in Australia (MYSMA) annual shorebird counts at Roebuck Bay and Eighty Mile beach continued. Undertaken by the Australasian Wader Study Group, with support from Parks and Wildlife. In 2015 these counts were extended to cover the full length of Eighty Mile Beach for comparison with the last full count in 2008.

Ongoing surveys by Global Flyway Network at Roebuck Bay and Eighty Mile Beach (and China): **http://globalflywaynetwork.com.au/**.

Annual North West Australia Wader and Tern Expedition continued at Roebuck Bay and Eighty Mile Beach. Undertaken by the Australasian Wader Study Group, with some support from Parks and Wildlife.

Hydrological monitoring of the Lake Warden system has been maintained through bore monitoring.

Migratory shorebird surveys and mapping key feeding and high tide roost sites, targeting migratory seabirds/shorebirds, are facilitated by offset funding in Exmouth Gulf and islands, targeting locations listed as Nationally Important Wetlands (Exmouth Gulf East) and Islands listed on the Register of the National Estate. Data entered onto the Pilbara Islands Conservation Planning database.

Commenced Island habitat threat assessment focusing on introduced species, involving remote cameras, Elliot trapping and small cage trapping. Black rats (Rattus rattus) have been detected on three of 50 islands; fox footprints on one island and house mouse (Mus musculus) on three islands. The infected islands generally lie close to the mainland, have some mangrove habitat and are locally important over wintering sites used by a number of species of migratory shorebird, including the Eastern Curlew and Great Knot.

Mapped the occurrence and spread of weeds by local Parks and Wildlife staff; engaged a botanist to undertake vegetation association mapping; and assisted research staff with habitat mapping in order to improve understanding and inform the management plan.

Monthly water birds counts across the entire Vasse-Wonnerup system by regional DPAW staff – commenced Sept 2014.

Fortnightly water quality monitoring and regulation of marine inflows at the Vasse-Wonnerup Ramsar site through the Vasse-Wonnerup Collaboration Committee.

Biophysical and water monitoring at Owingup/Boat harbour Complex.

Annual survey for shorebirds 2020 project from Broke inlet to Wilson Inlet.

Ongoing monthly bird and water chemistry monitoring Muir - Byenup Ramsar site.

Annual community surveys conducted for nesting colonies of Fairy Terns at Wilsons Inlet.

Education/Research

- 'Farewell Shorebirds' community education events at Barrow Island. Undertaken by Parks and Wildlife in association with BirdLife Australia, with logistical support from Chevron Australia.
- Brochure developed to minimise the impact of recreational disturbance on shore and waterbirds at Point Walter Spit (see attached). Developed by Swan River Trust (now Parks and Wildlife) and BirdLife Australia, funded by Swan River Trust.
- Shorebirds 2020 workshop at Swan River 14-15/5/16 for River Guardians. Presented by BirdLife Australia, facilitated and funded by Swan River Trust.
- Shorebirds 2020 workshop in Esperance 28/4/15 for local community. Presented by BirdLife Australia, facilitated and funded by South Coast NRM.
- Shorebirds 2020 workshop in Port Hedland 19-20/3/16 for local community. Presented by BirdLife Australia, facilitated and funded by Care for Hedland.
- South Coast Festival of the Birds included community shorebird events in 2015. Presented by BirdLife Australia, facilitated and funded by Greenskills WA.
- Shorebird presentation for local community in Busselton to support local artist Sue Kalab's exhibition at ArtGeo on 23/5/15. Presented by BirdLife Australia.
- TSIPP has commenced engagement with Local government, Wheatstone Indigenous Sea Ranger Group, Tour operators and community to raise awareness and implement education programs of shorebird species within the region.
- Interpretive signage is planned to be implemented at a minimum of 4 boat launching facilities along the Exmouth gulf and Pilbara coast in 2016/2017. This action aims to raise awareness of significant habitat and minimise impacts such as human disturbance on shorebird and seabird species on offshore islands, including five International Important Bird Areas.
- Regular community stakeholder meetings to provide input and advice to the Collaboration Committee agencies re: management issues at the Vasse-Wonnerup Ramsar site.
- Creation of a Science Advisory Committee to provide agency and tertiary research input into the management of the Vasse-Wonnerup system.
- Creation of hydrodynamic models to assist in the evaluation of alternative water management regimes for the Vasse-Wonnerup system.
- Public education program started to raise awareness of nesting colonies of Fairy Terns at Wilsons Inlet.
- Research project in second year to better understand peat wetland resilience: evaluating the impact of climate and land use change on the hydrodynamics and hydrogeochemistry of peat wetlands in the Warren (Muir-Byenup) District.

Mangrove boardwalk through Kooragang Island, near Newcastle New South Wales © Department of the Environment and Energy

Update on species or subspecies of birds in danger of extinction

Australian Government Department of the Environment and Energy

Relevant JAMBA Articles: III, IV, V, VI
Relevant CAMBA Articles: III
Relevant ROKAMBA Articles: 3

Summary

The *Environment Protection and Biodiversity Conservation Act 1999* (the EPBC Act) is the national environmental law for Australia. The EPBC Act promotes the conservation of biodiversity by, amongst other things, providing strong protection for nationally threatened species and sub-species. These can be listed as Extinct in the Wild, Critically Endangered, Endangered, Vulnerable or Conservation Dependant. State and Territory governments also have similar legislation which provide for listing of species and subspecies considered threatened within their jurisdictions.

Any person may nominate a native species for listing under any of the threatened species categories of the EPBC Act. Nominations are forwarded to the Threatened Species Scientific Committee, which is a committee established to advise the Minister for the Environment and Energy. Once the Threatened Species Scientific Committee has conducted an assessment of the conservation status of nominated species, its advice and subsequent recommendations are forwarded to the Minister who makes the final decision. After a species or subspecies is listed under the EPBC Act their recovery is promoted using Conservation Advice, Recovery or Threat Abatement Plans.

Since November 2014, 16 bird species have been listed under the threatened species provisions of the EPBC Act, and four other bird species were transferred between categories (see Table 1).

To date, there are 155 birds listed on the EPBC Act threatened species list. Of those, 22 are listed extinct, 16 critically endangered, 49 endangered and 68 vulnerable. The list of threatened species listed under the EPBC Act is maintained on the internet at:

http://www.environment.gov.au/cgi-bin/sprat/public/publicthreatenedlist.pl

絶滅の危機に瀕した鳥の種及び亜種に関する改訂

オーストラリア政府 環境エネルギー省

JAMBA の関連条項：III、IV、V、VI

CAMBA の関連条項：III

ROKAMBA の関連条項：3

要約

1999 年環境保護・生物多様性保存法(EPBC 法)は、オーストラリアの国レベルでの環境法です。EPBC 法は、その他諸々の事項の中でも、全国的に絶滅の危機に瀕している種および亜種を強力に保護することによって、生物多様性の保存を促進しています。これらの種および亜種は、「野生絶滅種」、「絶滅寸前」、「絶滅危惧」「危急」、「保全対策依存」として挙げることができます。州およびテリトリーの政府も、各管轄地内の危険な状態に置かれていると考えられている種及び亜種の目録の作成を図るため、同様の法律を有しています。

誰でも、EPBC 法の危機に瀕した種の任意の分類の下に、野生種を目録に加えるよう推薦することができます。推薦は、環境・エネルギー相の諮問委員会として設立された、絶滅危惧種科学委員会（Threatened Species Scientific Committee）に送られます。絶滅危惧種科学委員会が推薦された種の保存状況の評価を実施し、委員会からの助言とそれに続く推薦が最終決定を下す大臣へ送られます。種または亜種が EPBC 法の下で目録に加えられたら、保存助言（Conservation Advice）、回復（Recovery）または脅威軽減計画（Threat Abatement Plans）を通して、対象となる種または亜種の回復が促進されます。

2014 年 11 月以来、EPBC 法の絶滅危惧種に関する規則の下、16 種の鳥類種が目録に加えられ、その他 4 種の鳥類種が分類間で移動されました。（表 1 参照）。

今日まで、EPBC 法の絶滅危惧種一覧には 155 種の鳥類が載っています。その内、22 種は絶滅、16 種は絶滅寸前、49 種は危機、68 種は危急であると記載されています。EPBC 法の下で絶滅の危機に瀕しているとして挙げられている種はインターネット上の以下のアドレスで公開されています。
http://www.environment.gov.au/cgi-bin/sprat/public/publicthreatenedlist.pl

濒危鸟类物种或亚种的更新

澳大利亚政府环境与能源部

JAMBA 相关条款：III, IV, V, VI

CAMBA 相关条款：III

ROKAMBA 相关条款：3

总结

《1999 年环境和生物多样性保护法案》（简称《EPBC 法案》）是澳大利亚的国家环境法。另外，该法案通过为国家受威胁的物种和亚种提供强有力的保护，促进了对生物多样性的保护，列出了这些会在自然环境中灭绝、极度濒危、濒危、易危或依赖保护的物种。州和领地政府也有类似的立法，列出了其管辖范围内被视为受威胁的物种和亚种清单。

任何人都可以提名本地物种，以进入《EPBC 法案》受威胁物种的范畴内。提名会被转达给濒危物种科学委员会（Threatened Species Scientific Committee），该委员会专为环境和能源部长（Minister for the Environment and Energy）提供建议而设立。一旦濒危物种科学委员会对被提名物种的保护状况进行了评估，其建议和随后的建议书就会被转达给部长，由部长做出最后决定。物种或亚种被列入《EPBC 法案》后，就会运用保护建议、恢复或威胁消减计划来促使其恢复。

自 2014 年 11 月，《EPBC 法案》受威胁物种条款下已新增 16 种鸟类，还有 4 种鸟类的保护级别发生了改变（见表 1）。

到目前为止，《EPBC 法案》受威胁物种名单中已经列出了 155 种鸟类。其中，22 种已灭绝、16 种极度濒危、49 种濒临灭绝、68 种易危。《EPBC 法案》受威胁物种名单在网上可查：http://www.environment.gov.au/cgi-bin/sprat/public/publicthreatenedlist.pl

멸종 위기에 처한 조류 및 그 아종에 관한 추가 내용

호주 환경·에너지부
(Australian Government Department of the Environment and Energy)

JAMBA 관련 조항: III, IV, V, VI

CAMBA 관련 조항: III

ROKAMBA 관련 조항: 3

요약

1999 년 환경보호 및 생물다양성 보전 조례(Environment Protection and Biodiversity Conservation Act 1999, EPBC Act)는 호주 국가 환경보호법입니다. EPBS Act 는 국가적으로 멸종 우려종 및 그 아종을 강력하게 보호하는 등 생물다양성 보전을 증진합니다. 이러한 종은 야생 멸종, 극도 위협, 위협, 취약 또는 보전활동 의존적 범주로 지정할 수 있습니다. 주 및 테리토리 정부에는 관할 지역 내에서 멸종 우려에 있다고 파악되는 종 및 아종의 목록을 제공하는 유사 법률이 마련되어 있기도 합니다.

누구든 EPBC Act 의 모든 멸종 우려종 범주에 자생종을 지명할 수 있습니다. 지명을 하면 멸종우려종 과학위원회(Threatened Species Scientific Committee)로 정보가 전달되는데, 이 위원회는 호주 환경·에너지부 장관에게 자문하기 위해 설립된 기관입니다. 멸종우려종 과학위원회(Threatened Species Scientific Committee)는 지명한 종의 보존 상태를 평가한 후 자문 및 후속 권고 사항을 최종 의사결정자인 장관에게 전달합니다. 종이나 아종이 EPBC Act 하에 등재된 후 이들의 복구는 보전 자문(Conservation Advice)이나 복구(Recovery), 위협 감소(Threat Abatement) 계획을 통해 진행됩니다.

2014 년 11 월 이후 조류 16 종이 EPBC Act 하에 멸종 우려종으로 등재되었으며, 다른 4 종은 분류 항목이 변경되었습니다(표 1 참조).

현재까지 EPBC Act 하에 멸종 우려종으로 등재된 조류는 155 종입니다. 이 중 22 종은 '멸종' 항목에, 16 종은 '극도 위협' 항목에, 49 종은 '위협' 항목에, 68 종은 '취약' 항목에 등재되었습니다. EPBC Act 의 멸종 위기종 목록은 다음 웹 사이트에서 관리합니다.
http://www.environment.gov.au/cgi-bin/sprat/public/publicthreatenedlist.pl

Table 1: Birds listed under the threatened species provisions of the *Environment Protection and Biodiversity Conservation Act 1999* since the November 2014 consultative meetings.

Genus, species, subspecies	Common Name	Conservation Status	Effective from
Calidris ferruginea	Curlew Sandpiper	Critically Endangered	26 May 15
Numenius madagascariensis	Eastern Curlew	Critically Endangered	26 May 15
Acanthiza iredalei rosinae	Slender-billed Thornbill (Gulf St Vincent)	Vulnerable	8 Jul 15
Anthochaera phrygia	Regent Honeyeater	from Endangered to Critically Endangered	8 Jul 15
Grantiella picta	Painted Honeyeater	Vulnerable	8 Jul 15
Mirafra javanica melvillensis	Horsfield's Bushlark (Tiwi Islands)	Vulnerable	8 Jul 15
Pedionomus torquatus	Plains-wanderer	from Vulnerable to Critically Endangered	8 Jul 15
Zoothera lunulata halmaturina	Bassian Thrush (South Australian)	Vulnerable	8 Jul 15
Malurus coronatus coronatus	Purple-crowned Fairy-wren (western)	from Vulnerable to Endangered	31 Oct 15
Platycercus caledonicus brownii	Green Rosella (King Island)	Vulnerable	31 Oct 15
Probosciger aterrimus macgillivrayi	Palm Cockatoo (Australian)	Vulnerable	31 Oct 15
Strepera fuliginosa colei	Black Currawong (King Island)	Vulnerable	31 Oct 15
Amytornis dorotheae	Carpentarian Grasswren	Endangered	5 May 16
Calidris canutus	Red Knot	Endangered	5 May 16
Calidris tenuirostris	Great Knot	Critically Endangered	5 May 16
Charadrius leschenaultii	Greater Sand Plover	Vulnerable	5 May 16
Charadrius mongolus	Lesser Sand Plover	Endangered	5 May 16
Lathamus discolor	Swift Parrot	from Endangered to Critically Endangered	5 May 16
Limosa lapponica baueri	Bar-tailed Godwit (Western Alaskan)	Vulnerable	5 May 16
Limosa lapponica menzbieri	Bar-tailed Godwit (Northern Siberian)	Critically Endangered	5 May 16

Aerial view of the Shark Bay World Heritage Area, Western Australia © Department of the Environment and Energy

Take of migratory birds or their eggs in accordance with Article II

Department of Primary Industries, Parks, Water and Environment, Tasmanian Government

Relevant JAMBA Articles: II
Relevant CAMBA Articles: II
Relevant ROKAMBA Articles: 2

Summary

Migratory birds, including all species listed on the annexes of JAMBA, CAMBA and ROKAMBA, are protected as a matter on national environmental significance under Australia's *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). They are further protected under State and Territory (provincial) environmental laws. There are permits issued to capture birds for the purposes of scientific research, but also for traditional hunting which is consistent with the Articles of the migratory bird agreements. The only migratory bird species harvested in significant numbers in Australia is the Short-tailed Shearwater (*Ardenna tenuirostris*).

第 II 条に準ずる、渡り鳥またはその卵の採集

タスマニア政府 一次産業・公園・水・環境省

JAMBA の関連条項：II

CAMBA の関連条項：II

ROKAMBA の関連条項：2

要約

JAMBA、CAMBA、ROKAMBA の付録に挙げられている種全てを含み、渡り鳥はオーストラリア *1999 年環境保護・生物多様性保存法*（EPBC 法）の下、同国の環境に関して重要な対象として保護されています。渡り鳥は、州およびテリトリー（地方）の環境法の下で更に保護されています。科学的な調査を目的として鳥を捕獲するために発行される許可証がありますが、渡り鳥に関する協定の条項に則した、伝統的な狩猟のためのものもあります。オーストラリアで多数捕獲されている唯一の渡り鳥の種は、ハシボソミズナギドリ（Short-tailed Shearwater：*Ardenna tenuirostris*）のみです。

根据条款 II 规定捕获候鸟及其鸟蛋

塔斯马尼亚州政府水与环境部门公园署初级产业部（Department of Primary Industries, Parks, Water and Environment, Tasmanian Government）

JAMBA 相关条款：II

CAMBA 相关条款：II

ROKAMBA 相关条款：2

总结

作为澳大利亚*《1999 年环境和生物多样性保护法案》*（EPBC 法案）规定性下对国家环境具有重要意义的事项，候鸟类，包括 JAMBA、CAMBA 和 ROKAMBA 附录中列明的所有物种已经受到保护，并进一步纳入了州和领地（省级）环境法的保护。为科学研究目的捕捉鸟类需要取得许可证，传统狩猎也需要取得许可证，并符合候鸟协议的规定。澳大利亚唯一可大量捕捉的候鸟种类是短尾海鸥*（短尾鹱）*。

협정 제 2 조에 의거한 철새 포획 및 그 알의 채취

Tasmania 주 환경부

(Department of Primary Industries, Parks, Water and Environment)

JAMBA 관련 조항: II

CAMBA 관련 조항: II

ROKAMBA 관련 조항: 2

요약

JAMBA 와 CAMBA, ROKAMBA 의 첨부 자료에 등재된 모든 종을 포함하여 철새는 1999 년 환경보호 및 생물다양성 보전 조례(Environment Protection and Biodiversity Conservation Act 1999, EPBC Act) 하의 국가중대환경사안으로 보호를 받습니다. 더 나아가 이러한 철새는 주

및 테리토리(지방) 환경법 하에 보호를 받습니다. 과학 연구 목적의 조류 포획과 철새 협정 조항과 일치하는 범위에서의 전통 수렵에 발급하는 허가증이 있습니다. 호주 내에서 대량 포획하는 유일한 철새는쇠부리슴새(Short-tailed Shearwater, 학명 *Ardenna tenuirostris*)입니다.

The Department of Primary Industries, Parks, Water and Environment has long-term arrangements in place to allow members of the Tasmanian Aboriginal community to take shearwaters from a colony in south-eastern Tasmania for cultural purposes (also known as 'muttonbirding'). As a result of concerns over the sustainability of harvest on this colony, no cultural harvest was permitted during the 2010/11 and 2013/14 breeding seasons. Monitoring showed breeding returned to levels that allow for a sustainable harvest for the 2014/15 and 2015/16 breeding seasons and harvest was undertaken in these years. Seventy nine cultural muttonbirding permits were issued for the 2014/15 breeding season and a reported 1,975 chicks harvested. During the 2015/16 breeding season, 1,384 chicks were harvested by 58 Cultural muttonbirding permit holders. Another small colony on the east coast was opened to allow an indigenous family to undertake cultural muttonbirding in their traditional harvest area in 2016. No harvest return data has been received on this small harvest.

The Department also manages a recreational harvest of Short-tailed Shearwaters. Members of the public can purchase a permit to harvest from 38 sites around Tasmania's Bass Strait Islands and two sites on Tasmania's west coast. These permits allow take of up to 25 birds per day (15 on the West Coast sites) for a period of 15 days. In 2014/15, 933 recreational harvesting permits for shearwater were issued, 62 percent of all permit holders submitted returns to the Department reporting a take of 33,571 birds. Based on extrapolation of these returns the recreational take for the 2014/15 breeding season was estimated at 46,300 chicks. In 2015/16, a total of 834 recreational harvest permits were issued. At this stage, the harvest returns for the 2015/16 breeding season have not processed.

Dunlin (*Calidris alpina*), Lesser Sand Plover (*Charadrius mongolus*) and Red-necked Stint (*Calidris ruficollis*), Yubu Island, Republic of Korea © Chris Purnell

Coordination of the Australian Bird and Bat Banding Scheme

Australian Government Department of the Environment and Energy

Relevant JAMBA Articles: I, IV, VI
Relevant CAMBA Articles: I, III, IV
Relevant ROKAMBA Articles: 1, 3

Summary

Through the Australian Bird and Bat Banding Scheme (ABBBS), the Australian Government Department of the Environment and Energy coordinates training and accreditation of researchers doing banding studies in Australia. There are 832 accredited banders and banding groups currently operating in Australia. Bands, literature, equipment and data storage have also been provided to scientists in the South East Asian/Pacific region who are conducting research in countries that do not have a banding scheme, with the agreement of the countries involved. Four projects in Papua New Guinea are currently, or have been, supported during the reporting period.

Around 3.14 million banding and 582,000 recovery records generated since 1953 are now stored electronically, enabling sophisticated analysis and efficient responses to requests for data. A major project to convert the remaining paper-based records into electronic format has seen over one million banding and recovery records added since 2005. These data, accumulated over more than 60 years, are available to government and the research community.

オーストラリア鳥類蝙蝠足環計画の調整

オーストラリア政府 環境エネルギー省

JAMBA の関連条項：I、IV、VI

CAMBA の関連条項：I、III、IV
ROKAMBA の関連条項：1、3

要約

オーストラリア鳥類蝙蝠足環計画(ABBBS)を通して、オーストラリア政府環境エネルギー省は、オーストラリアで足環を用いた研究を行う研究者に対してトレーニングと認定制度を整備しています。オーストラリアでは現在、832 の認定済みの個人と団体が、足環に関する作業を行っています。足環、文献、機材、データ記憶装置は、関与する国々との間に締結された協定をもって、足環計画を有していない国々で研究を行っている東南アジアおよび太平洋地域の科学者にも提供されています。パプワニューギニアで実施されている 4 つのプロジェクトに対して、現在および現在に至るまでに、報告期間中に支援が行われています。

1953 年から発行されている、足環に関する約 314 万の記録と回復に関する約 58 万 2000 の記録は、現在は電子的に保存されているため、洗練された分析とデータの請求に対する効率的な回答が実現されています。残る紙媒体の記録を電子化する主要なプロジェクトでは、2005 年以降に加えられた、足環と回復に関する 100 万の記録を取り扱います。60 年を超えて蓄積されたこれらのデータは、政府と研究コミュニティーによって利用されています。

澳大利亚鸟类与蝙蝠环志方案的协调

澳大利亚政府环境与能源部

JAMBA 相关条款：I, IV, VI

CAMBA 相关条款：I, III, IV
ROKAMBA 相关条款：1, 3

总结

通过《澳大利亚鸟类与蝙蝠环志方案》（Australian Bird and Bat Banding Scheme，简称 ABBBS），澳大利亚政府环境与能源部组织培训并认证研究人员在本国进行环志研究。目前澳大利亚共有 832 个获得认证的环志人员和环志研究组。在与当事国签订协议的情况下，还向东南亚/太平洋地区在进行研究、但没有环志方案的科学家们提供了环志、文献、设备及数据存储。在报告期内，巴布亚新几内亚的 4 个项目目前正在或曾经获得支持。

自 1953 年以来的约 314 万环志以及 58.2 万条恢复记录现已电子化存储，可以对数据进行复杂分析及有效回应。将剩余纸质记录转换成电子格式的重点项目，自 2005 年以来已有超过 100 万条环志和记录得到恢复。这些积累超过 60 年的数据，可以提供给政府和研究社群进行研究参考。

호주 조류 및 박쥐류 가락지 부착 방안 마련

호주 환경·에너지부
(Australian Government Department of the Environment and Energy)

JAMBA 관련 조항: I, IV, VI

CAMBA 관련 조항: I, III, IV

ROKAMBA 관련 조항: 1, 3

호주 조류 및 박쥐류 가락지 부착 프로그램(ABBBS)을 통해 호주 환경·에너지부는 호주 내에서 가락지 부착 연구를 하는 연구원의 훈련 및 인증을 담당합니다. 현재 호주에서 활동 중인 공인 가락지 부착조사인 및 부착 단체는 832 곳이 있습니다. 가락지 부착 프로그램이 없는 국가 중 협정을 맺은 곳에서 연구 활동 중인 동남아·태평양 지역의 과학자들에게 가락지, 문서 자료, 장비, 데이터 저장장치를 제공하기도 했습니다. 파푸아 뉴기니의 4 개 프로젝트는 보고 기간 동안 지원을 받았거나 현재 받고 있습니다.

1953 년 이후 기록된 가락지 부착 약 3 백 14 만 건과 재포획 5 백 8 십 2 천 건이 현재 전자 매체에 저장되 어 정교한 분석과 데이터 요청에 다른 효과적인 응답이 가능합니다. 나머지 문서로 작성된 정보의 디지털화하는 대형 프로젝트를 통해 2005 년 이후 1 백만 건 이상의 가락지 부착 및 복구 기록이 저장되었습니다. 정부 및 연 구 공동체는 60 년 이상 축적된 이 정보를 이용할 수 있습니다.

Noteworthy Recoveries

Some interesting recoveries of species listed on JAMBA, CAMBA and/or ROKAMBA reported in 2014-2016 are included below. Some recoveries relate to the last reporting period, however these details have only recently been submitted to the ABBBS.

Longevity

Wedge-tailed Shearwater, *Ardenna pacifica*, 161-70290, banded at Muttonbird Island, Coffs Harbour, New South Wales on 09.04.1981. Recovered dead at Bonny Hills Beach, New South Wales on 28.11.2015, 34 years 7 months and 19 days after banding. Distance moved is 146km. This is the oldest individual recorded for this species.

Bar-tailed Godwit, *Limosa lapponica*, 071-86894, banded at Crab Creek, Roebuck Bay, Broome, Western Australia on 18.07.1991. Recaptured in 2006 and 2012 at the banding place, then re-sighted at the banding place on 05.11.2014, 23 years, 3 months and 18 days after banding. This is the second oldest individual recorded for this species.

Bar-tailed Godwit, *Limosa lapponica*, 072-33180, banded on the Shores of 80 Mile Beach, Western Australia on 12.03.1994. Recaptured at banding place on 16.02.2016, 21 years, 9 months and 4 days after banding.

Great Knot, *Calidris tenuirostris*, 062-33249, banded on the Shores of the 80 Mile Beach, Western Australia on 03.04.1996. Recaptured at the banding site on 13.02.2016, 19 years, 10 months and 10 days after banding.

Bridled Tern, *Onychoprion anaethetus*, 061-76060, banded at Penguin Island, Western Australia on 01.01.1988. Recaptured on 26.09.2015 at the banding place, 27 years, 8 months and 25 days after banding. This is the oldest individual recorded for this species.

Crested Tern, *Thalasseus bergii*, 071-79527 and 071-79558, both banded together at Troubridge Island, South Australia on 26.12.1987. Both birds recaptured together on 08.12.2015 at the banding place, 27 years, 11 months and 12 days later.

Of particular note, there have been 792 recoveries of Crested Tern (*Thalasseus bergii*) reported since 2014 where the time elapsed between banding and recovery is greater than 10 years. Of these individuals, 134 have a time elapsed between banding and recovery greater than 20 years.

Long distance movements

Bar-tailed Godwit, *Limosa lapponica*, 073-36953 banded at Mann's Beach, Corner Inlet, Victoria on 09.02.2009. 073-63920 banded at Mann's Beach Corner Inlet, Victoria on 01.02.2011. Both birds captured together at the banding place on 01.02.2011, where both had readable orange leg flags placed upon them. 073-36953 was re-sighted at Arao Beach, Kumamoto, Japan on 03.05.2011, 2 years, 2 months and 24 days after banding. Distance moved is 8145km. Both birds re-sighted together on 26.04.2016 at Arao Beach, Kumamoto, Japan, 7 years 2 months and 17 days after banding (073-36953), and 5 years, 2 months and 25 days after banding (073-63920). Distance moved for both birds is 8145km.

Great Knot, *Calidris tenuirostris*, 063-16218 and 063-16220, both banded at Crab Creek, Roebuck Bay, Western Australia on 06.03.2012. Both birds recaptured at Chongming Dontan, Shanghai, China on 31.03.2014, 2 years and 25 days after banding. Distance moved is 5497km. 063-16220 also retrapped back at the banding place on 13.02.2015, 2 years 11 months and 7 days after banding.

Red-necked Stint, *Calidris ruficollis*, 2T25803* banded at Lake Komuke, Hokkaido, Japan on 09.09.2013. Recaptured at Werribee Sewerage Farm, Victoria on 16.01.2015, 1 year, 4 months and 7 days after banding. Distance moved is 9155km.

* Bird Migration Research Centre, Yamashina Institute for Ornithology

Sanderling, *Calidris alba*, 042-69021, banded at Canunda National Park, South Australia on 02.12.2012. Re-sighted at Beidaihe, Qinhuangodau City, Hebei, China on 24.11.2014, 1 year, 11 months and 22 days after banding. Distance moved is 8870km.

Little Tern, *Sternula albifrons*, 3E05279*, banded at Tamashima Harbour Island, Kurashiki, Japan on 21.06.2006. Re-sighted at Patches Beach, Ballina, New South Wales on 04.03.2016, 9 years, 8 months and 12 days after banding. Distance moved is 7354km.

* Bird Migration Research Centre, Yamashina Institute for Ornithology

Roseate Tern, *Sterna dougallii*, 052-30619, banded at Bacchi Cay, Swain Reefs, Great Barrier Reef, Queensland on 16.01.2003. Recaptured at Henza Island, Okinawa, Japan on 23.07.2015, 12 years, 6 months and 7 days after banding. Distance moved is 5946km.

Summary of banding and recoveries

The following tables provide information about banding for the period 1 July 1953 to 30 June 2016.

Table 1 provides an aggregated list of bird band recoveries for JAMBA, CAMBA and ROKAMBA species, between Australia and Japan, Australia and the People's Republic of China and Australia and the Republic of Korea. It provides figures for the total number of recoveries in the period 1953 2016.

Table 2 provides a list of banding projects operating during 2014-2016 on species listed under JAMBA, CAMBA and/or ROKAMBA.

Far Eastern Curlew (*Numenius madagascariensis*)
Band Recoveries and Engraved Leg Flag Sightings for movements >1000km.

Map produced by: the Environmental Resources Information Network, Department of the Environment.
Band Recoveries and Engraved Leg Flag Sightings: Provided by Australian Bird and Bat Banding Scheme.
Contextual data sources: from the Dept. of the Environment, Geoscience Australia, Public Sector Mapping Agency, Dept. of Agriculture, Commonwealth Scientific and Industrial Research Organisation, and the Australian Bureau of Statistics.
Caveat: This map illustrates migratory bird movements into and out of Australia. It does not reflect the views the Australian Government or the Department of the Environment on disputed international boundaries. The information presented in this map has been provided by a range of groups and agencies. While every effort has been made to ensure accuracy and completeness, no guarantee is given, nor responsibility taken by the Commonwealth for errors or omissions, and the Commonwealth does not accept responsibility in respect of any information or advice given in relation to, or as a consequence of, anything containing herein.

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Australian Government
Department of the Environment

24/06/2016

Flesh-footed Shearwater (*Ardenna carneipes*)
Band Recoveries for movements >1000km.

Map produced by: the Environmental Resources Information Network, Department of the Environment.
Band Recoveries and Engraved Leg Flag Sightings: Provided by Australian Bird and Bat Banding Scheme.
Contextual data sources: from the Dept. of the Environment, Geoscience Australia, Public Sector Mapping Agency, Dept. of Agriculture, Commonwealth Scientific and Industrial Research Organisation, and the Australian Bureau of Statistics.
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24/06/2016

Great Knot (*Calidris tenuirostris*)
Band Recoveries and Engraved Leg Flag Sightings for movements >1000km.

Map produced by: the Environmental Resources Information Network, Department of the Environment.
Band Recoveries and Engraved Leg Flag Sightings: Provided by Australian Bird and Bat Banding Scheme.
Contextual data sources: from the Dept. of the Environment, Geoscience Australia, Public Sector Mapping Agency, Dept. of Agriculture, Commonwealth Scientific and Industrial Research Organisation, and the Australian Bureau of Statistics.
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Little Tern (*Sternula albifrons*)
Band Recoveries and Engraved Leg Flag Sightings for movements >1000km.

Map produced by: the Environmental Resources Information Network, Department of the Environment.
Band Recoveries and Engraved Leg Flag Sightings: Provided by Australian Bird and Bat Banding Scheme.
Contextual data sources: from the Dept. of the Environment, Geoscience Australia, Public Sector Mapping Agency, Dept. of Agriculture, Commonwealth Scientific and Industrial Research Organisation, and the Australian Bureau of Statistics.
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Red Knot (*Calidris canutus*)
Band Recoveries and Engraved Leg Flag Sightings for movements >1000km.

Map produced by: the Environmental Resources Information Network, Department of the Environment.
Band Recoveries and Engraved Leg Flag Sightings: Provided by Australian Bird and Bat Banding Scheme.
Contextual data sources: from the Dept. of the Environment, Geoscience Australia, Public Sector Mapping Agency, Dept. of Agriculture, Commonwealth Scientific and Industrial Research Organisation, and the Australian Bureau of Statistics.
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Ruddy Turnstone (*Arenaria interpres*)
Band Recoveries and Engraved Leg Flag Sightings for movements >1000km.

Map produced by: the Environmental Resources Information Network, Department of the Environment.
Band Recoveries and Engraved Leg Flag Sightings: Provided by Australian Bird and Bat Banding Scheme.
Contextual data sources: from the Dept. of the Environment, Geoscience Australia, Public Sector Mapping Agency, Dept. of Agriculture, Commonwealth Scientific and Industrial Research Organisation, and the Australian Bureau of Statistics.
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24/06/2016

Short-tailed Shearwater (*Ardenna tenuirostris*)
Band Recoveries for movements >1000km.

Map produced by: the Environmental Resources Information Network, Department of the Environment.
Band Recoveries and Engraved Leg Flag Sightings: Provided by Australian Bird and Bat Banding Scheme.
Contextual data sources: from the Dept. of the Environment, Geoscience Australia, Public Sector Mapping Agency, Dept. of Agriculture, Commonwealth Scientific and Industrial Research Organisation, and the Australian Bureau of Statistics.
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24/06/2016

Table 1. Summary of bird band recoveries for JAMBA, CAMBA and ROKAMBA species between Australia and Japan/People's Republic of China/Republic of Korea.

SPECIES	Species listed under: JAMBA J CAMBA – C ROKAMBA - R			Number of birds banded 1 November 2014 – 30 June 2016	Number of birds banded 1953-2016	Total recoveries					
						Australia to Japan	Japan to Australia	Australia to China	China to Australia	Australia to Republic of Korea	Republic of Korea to Australia
Garganey	J	C	R	-	-	-	-	-	-	-	-
Streaked Shearwater	J	C	R	-	-	-	2	-	-	-	-
Wedge-tailed Shearwater	J			571	91412	-	-	1	-	-	-
Flesh-footed Shearwater	J		R	222	16092	21	-	1	-	45	-
Sooty Shearwater	J			1	262	1	-	-	-	-	-
Short-tailed Shearwater	J	C	R	439	122135	29	-	-	-	1	-
Bulwer's Petrel	J			1	-	-	-	-	-	-	-
Swinhoe's Storm-Petrel	J	C		-	-	-	-	-	-	-	-
Matsudaira's Storm-Petrel	J			-	-	-	-	-	-	-	-
Wilson's Storm-Petrel	J			-	40	-	-	-	-	-	-
Red-tailed Tropicbird	J	C		57	3687	-	-	-	-	-	-
White-tailed Tropicbird	J	C		-	98	-	-	-	-	-	-
Masked Booby	J		R	57	18283	-	-	-	-	-	-
Red-footed Booby	J	C		12	1326	-	-	-	-		
Brown Booby	J	C	R	-	8480	-	-	-	-	-	-
Great Frigatebird	J	C		-	479	-	-	-	-		
Lesser Frigatebird	J	C	R	77	1828	-	-	-	-	-	-
Christmas Island Frigatebird		C		-	46	-	-	-	-		
Latham's Snipe	J		R	3	1044	1	6	-	-	-	-
Pin-tailed Snipe	J	C	R	-	31	-	-	-	-	-	-
Swinhoe's Snipe	J	C	R	1	87	-	-	-	-	-	-
Black-tailed Godwit	J	C	R	10	1377	-	-	9	9	9	-
Bar-tailed Godwit	J	C	R	534	25153	77	2	310	69	198	2
Little Curlew	J	C	R	10	1549	-	-	-	-	-	-
Whimbrel	J	C	R	12	947	2	-	2	2	-	-
Far Eastern Curlew	J	C	R	70	1599	27	-	10	-	14	-
Common Redshank	J	C	R	-	20	-	-	-	-	-	-
Marsh Sandpiper	J	C	R	1	647	-	-	1	-	-	-
Common Greenshank	J	C	R	55	1379	-	1	-	3	-	-
Wood Sandpiper	J	C	R	1	192	-	-	-	-	-	-
Terek Sandpiper	J	C	R	224	8841	2	3	29	4	8	2
Common Sandpiper	J	C	R	-	260	-	-	-	-	-	-
Grey-tailed Tattler	J	C	R	527	10271	62	19	32	9	3	-
Wandering Tattler	J			-	2	-	-	-	-	-	-
Ruddy Turnstone	J	C	R	585	8424	19	4	205	3	4	-
Asian Dowitcher	J	C	R	6	147	-	-	1	-	-	-
Great Knot	J	C	R	2179	35059	23	-	852	115	138	10
Red Knot	J	C	R	549	15883	1	5	891	19	3	1

SPECIES	Species listed under: JAMBA J CAMBA – C ROKAMBA - R			Number of birds banded 1 November 2014 – 30 June 2016	Number of birds banded 1953-2016	Total recoveries					
						Australia to Japan	Japan to Australia	Australia to China	China to Australia	Australia to Republic of Korea	Republic of Korea to Australia
Sanderling	J	C	R	176	6742	57	1	34	1	4	-
Red-necked Stint	J	C	R	6250	163380	26	12	109	11	3	-
Long-toed Stint	J	C	R	6	165	-	-	-	-	-	-
Pectoral Sandpiper	J		R	-	28	-	-	-	-	-	-
Sharp-tailed Sandpiper	J	C	R	708	17737	-	-	19	1	3	-
Curlew Sandpiper	J	C	R	1210	47303	1	-	226	20	-	-
Broad-billed Sandpiper	J	C	R	58	1736	-	1	8	2	1	-
Ruff	J	C	R	-	8	-	-	-	-	-	-
Red-necked Phalarope	J	C	R	-	23	-	-	-	-	-	-
Pacific Golden Plover	J	C	R	50	900	-	-	1	1	-	-
Grey Plover	J	C	R	33	659	10	-	1	12	2	-
Little Ringed Plover	J	C	R	-	21	-	-	-	-	-	-
Lesser Sand Plover	J	C	R	59	1407	2	-	4	1	-	-
Greater Sand Plover	J	C	R	840	16624	-	-	42	29	-	-
Oriental Plover	J	C	R	136	794	-	-	-	-	-	-
Oriental Pratincole	J	C	R	108	1359	-	-	5	-	-	-
South Polar Skua	J			-	426	-	-		-	-	-
Pomarine Jaeger	J	C		1	4	-	-	-	-	-	
Arctic Jaeger	J	C	R	-	3	-	-	-	-	-	-
Long-tailed Jaeger	J	C		-	1	-	-	-	-	-	-
Caspian Tern	J			80	4581	-	-	-	-	-	-
Roseate Tern	J	C		-	10475	43	89	17	20	-	-
Black-naped Tern	J	C		-	1281	-	-	-	-		
Common Tern	J	C	R	-	3314	1	-	-	-	-	-
Little Tern	J	C	R	86	7105	12	8	1	-	3	1
Gull-billed Tern		C		5	1561	-	-	4	-	-	-
Crested Tern	J			9136	234857	-	-	-	-	-	-
Bridled Tern	J	C		237	10768	-	-	-	-	-	-
White-winged Black Tern	J	C	R	43	412	-	-	-	-	-	-
Common Noddy	J	C		151	7180	-	-	-	-		
Oriental Cuckoo	J	C	R	-	28	-	-	-	-	-	-
White-throated Needletail	J	C	R	-	30	-	-	-	-	-	-
Fork-tailed Swift	J	C	R	-	4	-	-	-	-	-	-
Yellow Wagtail	J	C	R	-	10	-	-	-	-	-	-
Grey Wagtail	J	C	R	-	-	-	-	-	-	-	-
Barn Swallow	J	C	R	-	4	-	-	-	-	-	-
Red-rumped Swallow	J	C	R	-	-	-	-	-	-	-	-
Oriental Reed-Warbler	J	C		-	7	-	-	-	-	-	-
	Totals			**25,576**	**918,018**						

Table 2. Banding projects operating during 2014-2016, relevant to JAMBA/CAMBA/ROKAMBA

SPECIES GROUP	RESEARCHER	PROJECT
COMMUNITY	A/P A LILL	Seasonal physiological adjustments in birds
LARIDAE	DR CA SURMAN	Population Biology of Seabirds on Pelsaert Island, Houtman Abrolhos, WA
	DR JN DUNLOP	Caspian Terns as indicators of Coastal Seagrass and Estuarine Food Chains
PHAETHONTIDAE	MR C J HASSELL	Effect of artificial nest shelters on Red-tailed Tropicbirds at Bedwell Island, Rowley Shoals, WA
	THE ANPWS-DOE CORAL SEA PROJECT	Red-tailed Tropicbird (Phaethon rubricauda) - aspects of breeding biology
PROCELLARIIDAE	DR DA STEWART	The effects of vegetation on the breeding success of Wedge-tailed Shearwaters on Mudjimba Island, SEQ
	DR J L LAVERS	Status and trends of Flesh-footed Shearwater populations across Australia
	DR JN DUNLOP	Flesh-footed Shearwater by-catch in the South Coast Purse Seine Fishery
	DR MA HINDELL	Investigating the relationship between marine resources and foraging and reproductive success in two sympatrically breeding seabird species in S. Tasmania
	F.I.R.M. - FRENCH IS MUTTONBIRD RESEARCH	Population Dynamics and Telemetry Studies on Shearwaters of French Island, Vic
	MR MC HOLDSWORTH	Fisher Island Short-tailed Shearwater colony
	MR RG CAMERON	Phillip Island Nature Park Shearwater Banding Project
	MS NM SWANSON	Wedge-tailed Shearwaters - Mutton Bird & Solitary Islands, Coffs Harbour
	SOSSA - SOUTHERN OCEAN SEABIRD STUDY	SOSSA NSW Seabird Study (Petrels and Shearwaters)
	THE NSW NPWS SEABIRD PROJECT	Breeding ecology and management of petrels and shearwaters in NSW
SEABIRDS	DR BC CONGDON	Global climate change: identifying impacts at upper trophic levels in tropical marine ecosystems
	DR CA SURMAN	An ecological study of the seabird communities of the Lowendal Islands, WA
	DR CA SURMAN	Investigating the breeding and foraging behaviour of seabirds on the Lacepede Islands to determine their vulnerability to impacts associated with potential oil spills and their ability to recover

SPECIES GROUP	RESEARCHER	PROJECT
	DR DA STEWART	Does variation in the diet of seabirds breeding in the Great Barrier Reef reveal drivers of population declines?
	DR JN DUNLOP	The population dynamics of tropical seabirds in the eastern Indian Ocean
	DR L J MCLEAY	Assessing population status and ecology of marine threatened, endangered and protected species: mitigation and management of threats and interactions with marine resource users
	DR R H CLARKE	Marine Resource Use by Tropical Seabirds
	MR P M DAVIDSON	Genetic characterisation and distribution of Norfolk Island seabirds
	THE CHRISTMAS ISLAND NATIONAL PARK	Seabirds of Christmas Island
	THE NSW NPWS SEABIRD PROJECT	Demography and resource use of seabirds
SHOREBIRDS	DR GP CLANCY	North Coast Wader and Tern Banding Survey
	DR J T COLEMAN	Long Term Monitoring of Body Condition and Habitat Utilisation by Wading Birds in Queensland
	MR G ROSS	Botany Bay Shorebird Action Plan
	MR WL KLAU OAM	Wader Movement, northern Spencers Gulf
	PROF M J LAWES	Ecology of migratory shorebirds in Darwin Harbour
	THE AUSTRALASIAN WADER STUDY GROUP	Studies of Waders & Terns throughout Australia & Asia
	THE NSW WADER STUDY GROUP	Charadriiformes
	THE VICTORIAN WADER STUDY GROUP	A Comprehensive Long Term Study of Waders & Terns in South-East Australia
	THE WA WADER STUDY GROUP	Waders in the South-West of Western Australia - Movements & Population Dynamics
SULIDAE	MRS MJ MCCOY	Movements of Boobies and Gannets through the Pacific region
	THE ANPWS-DOE CORAL SEA PROJECT	Population monitoring of Masked Booby on NE Herald Cay, Coral Sea

Red Knot (*Calidris canutus*), Curlew Sandpiper (*Calidris ferruginea*), Red-capped Plover (*Charadrius ruficapillus*), Ruddy Turnstone (*Arenaria interpres*), and Sharp-tailed Sandpiper (*Calidris acuminata*), Spencer Gulf, South Australia © Chris Purnell

Migration Research through Colour Flagging

Australasian Wader Studies Group, BirdLife Australia

Relevant JAMBA Articles: I, IV, VI
Relevant CAMBA Articles: I, III, IV
Relevant ROKAMBA Articles: 1, 3

Summary

The Australasian Wader Studies Group (AWSG) is a special interest group of BirdLife Australia formed to coordinate and focus studies on shorebirds in Australia and along their migration routes. The AWSG aims to ensure the future of shorebirds and their habitats in Australia through research and conservation programs and to encourage and assist similar programs in the rest of the East Asian-Australasian Flyway.

Migration and habitat research using leg flags are key ongoing activities of the AWSG. Plastic (Darvic or similar) leg flags are attached to the birds. Re-sightings of flagged birds along the flyway are recorded in a central database and analysed to determine migration routes, destinations and stopover locations.

This report includes data on flag sightings in Australia of shorebirds banded in Japan, China and Republic of Korea, and the numbers of flag sightings in these three countries of shorebirds banded in Australia during northward and southward migration (based on data collected to July 2015).

カラーフラッグを用いた渡り鳥の飛来状況調査

バードライフ オーストラリア オーストラリア渉禽類研究グループ

JAMBA の関連条項：I、IV、VI

CAMBA の関連条項：I、III、IV
ROKAMBA の関連条項：1、3

要約

オーストラリア渉禽類研究グループ（AWSG）は、バードライフ オーストラリア（BirdLife Australia）の特別利益団体であり、岸辺の鳥に関する、オーストラリア内および当該渡り鳥の渡りのルートに沿って行われる研究を調整し、更にこれらの研究に焦点を当てるために設立されています。AWSG の目的は、研究と保存プログラムを通して、オーストラリアの岸辺の鳥とこれらの鳥の生息地の未来を確実なものとすることと、東アジア・オーストラリア地域フライウェイの残りの地域において同様のプログラムを奨励することです。

足に着けるフラッグを用いた鳥の渡りと生息の研究は、AWSG が現在進めている主要な活動です。プラスチック（ダービック：Darvic または類似の製品）製の足用フラッグを鳥に装着します。フラッグが装着された鳥がフライウェイで再度観測された際には、中央データベースに記録され、渡りのルート、目的地、中継地を特定するために分析されます。

このレポートには、北方及び南方への渡りの最中に、日本、中国、韓国で足環を装着した岸辺の鳥がオーストラリア内でフラッグを観測されたデータと、オーストラリアで足環を装着した岸辺の鳥のフラッグがこれら三国内で観測された回数が含まれています(2015 年 7 月までに収集されたデータに基づく)。

通过**颜色标记**进行的**迁移研究**

澳大利亚鸟盟澳大利亚亚太涉禽研究组（Australasian Wader Studies Group, BirdLife Australia）

JAMBA 相关条款：I, IV, VI

CAMBA 相关条款：I, III, IV
ROKAMBA 相关条款：1, 3

总结

澳大利亚鸟盟澳大利亚亚太涉禽研究组（简称 AWSG）是澳大利亚鸟盟为协调及关注涉禽在澳大利亚和及其迁徙路线沿岸研究为重点工作的团体。AWSG 旨在通过研究和保护计划，确保滨鸟及其栖息地在澳大利亚的未来，并鼓励和协助东亚——澳大利亚候鸟迁徙路线上其他的类似项目。

使用足旗对迁徙和栖息地进行研究是 AWSG 一直进行的主要活动。将塑料足旗（Darvic 塑胶或类似）系在鸟类腿上。再看到这些鸟沿迁徙路线飞行，就记录在中央数据库中，并进行分析以确定迁徙路线、目的地及中途停留的地点。

该报告包括澳大利亚看到的带有日本、中国和韩国标记的涉禽数据，以及在南北迁徙过程中这三个国家看到的绑有澳大利亚标记的涉禽数量（根据 2015 年 7 月收集的数据）。

유색 플래그를 이용한 철새 연구

호주국제조류보호협회(BirdLife Australia) 산하
호주 물새떼 연구 그룹(Australasian Wader Studies Group, AWSG)

JAMBA 관련 조항: I, IV, VI
CAMBA 관련 조항: I, III, IV
ROKAMBA 관련 조항: 1, 3

요약

호주 도요·물새떼 연구단(Australasian Wader Studies Group, AWSG)은 호주 섭금류 및 그 이동 경로에 대한 연구를 조직하고 이에 힘쓰기 위해 설립된 BirdLife Australia 내의 그룹입니다. AWSG 는 연구 및 보존 프로그램의 목표는 호주 내 섭금류와 그 서식지의 미래를 보장하고 나머지 동아시아-대서양 이동경로에서 유사한 프로그램을 마련하도록 장려하고 지원하는 것입니다.

플래그형 가락지를 이용한 이주 및 서식지 연구는 AWASG 의지속적인 주요 활동입니다. 플라스틱(Darvic 또는 이와 유사) 플래그형 가락지를 새의 다리에 부착합니다. 이동 경로 내 가락지를 부착한 조류의 재관찰은 중앙 데이터베이스에 저장되고, 이를 이동 경로와 목적지, 경유지를 결정하기 위한 분석합니다.

이 보고서는 일본, 중국, 한국에서 가락지를 부착한 섭금류의 호주내 확인에 관한 데이터와 북향 및 남향으로 이동 중에 호주에서 가락지를 부착한 섭금류를 앞의 세 국가에서 확인한 횟수(2015 년 7 월에 수집한 정보 바탕)를 수록하고 있습니다.

About the Project

Marking of shorebirds with PVC plastic leg flags is an important part of research into shorebird migration. The AWSG is leading this activity in Australia, both in application of flags to birds and in recording and analysis of sightings of flagged birds. As of October 2014, the leg-flagging database contained a total of 55,260 records. Lists of flag sightings relating to Australian flagged shorebirds are provided in Tables 1 and 2 below.

The AWSG and the Australian Government appreciate the cooperation from researchers and banding schemes in Japan, China and Republic of Korea in providing sighting records.

Table 1. Flag sightings in Australia of shorebirds flagged in Japan, Republic of Korea and China (to July 2015).

Year	**Japan**	**Republic of Korea**	**China**	mainland	Hong Kong	Chinese Taipei
1995	7					
1996	14					
1997	8					
1998	14					
1999	15					
2000	11	4				
2001	28	5				
2002	34	11	12	8	2	2
2003	16	15	15	9		6
2004	14	14	47	38	4	5
2005	12	7	248	231	1	16
2006	26	4	456	444	1	11
2007	49	2	664	652	1	11
2008	43	0	545	533	1	11
2009	51	2	684	669	1	14
2010	38	14	999	978	2	19
2011	28	6	864	855	1	8
2012	35	9	600	554	26	20
2013	40	0	707	668	30	33
2014	77	7	878	816	34	28
2015	76	5	849	785	8	56

Table 2. Australian flagged shorebirds sighted in Japan, Republic of Korea and China.

Year		**Japan**	**Republic of Korea**	**China**	mainland	Hong Kong	Chinese Taipei
2014	**total**	48	231	2989	2765	87	137
2015	**total**	47	304	2751	2622	43	86

National Avian Influenza Wild Bird Surveillance Program update

National Avian Influenza Wild Bird Steering Group

Compiled by:
Tiggy Grillo PhD
Australia's National Avian Influenza Wild Bird Steering Group

Relevant JAMBA Articles: III, IV, VI
Relevant CAMBA Articles: III, IV
Relevant ROKAMBA Articles: 3, 5

Summary

Activities under the **National Avian Influenza Wild Bird (NAIWB) Surveillance Program** are conducted Australia-wide. Surveillance for avian influenza in wild birds comprises two sampling components: targeted surveillance via sampling of apparently healthy and hunter-killed wild birds, and general surveillance via investigation of significant unexplained morbidity and mortality events in wild birds, including captive and wild birds within zoo grounds. Targeted surveillance will continue to focus on sampling from Anseriformes (waterfowl), specifically from locations where there is known mixing with birds from the Charadriiformes (shorebirds) Order and that bring waterfowl into close proximity to poultry and humans. Where possible, surveillance will continue in locations previously sampled to obtain longitudinal data. There will continue to be an emphasis on virus isolation and genotyping of avian influenza viruses (AIVs) in order to inform risk and allow ongoing assay development for influenza testing. General (passive) surveillance focuses on exclusion of AI from mass mortality and morbidity events in wild birds around Australia and the Australian Antarctic Territory. The wild bird program is part of a larger national program involving domestic bird surveillance, research and international responsibilities, and ongoing communication to industry.

全国鳥インフルエンザ野鳥監視プログラム最新状況

全国鳥インフルエンザ野鳥ステアリンググループ

編集者：

ティギー・グリロ（Tiggy Grillo）博士
オーストラリア全国鳥インフルエンザ野鳥ステアリンググループ

JAMBAの関連条項：III、IV、VI

CAMBAの関連条項：III、IV

ROKAMBAの関連条項：3、5

要約

全国鳥インフルエンザ野鳥(NAIWB)監視プログラムに基づく活動はオーストラリア全土で実施されています。野鳥が罹患する鳥インフルエンザの監視のための検体の採取には二通りあります。その二つの方法とは、見たところ健康で、狩猟によって殺害された野鳥からの検体の採取を通した、標的を絞った監視と、動物園内で飼育されているものを含む、野鳥に生じた説明のつかない重大な疾病および致死的な事象の調査を通した一般的な監視を指します。標的を絞った監視は、カモ目（水鳥）からの採取に引き続き焦点を当て、具体的な採取場所は、チドリ目（岸辺の鳥）との交わりがあることが分かっており、水鳥が家禽や人間に接近する場所です。可能であれば、縦断的なデータを得るために過去に標本を採取した場所で監視を継続します。リスクを発信し、インフルエンザの検査に関する分析の開発を継続するためにも、鳥インフルエンザウイルス（AIV）の隔離と遺伝子型判定に引き続き集中していきます。一般的な（受動型の）監視では、オーストラリアおよびオーストラリア南極領土周辺の野鳥に生じた大規模な致死的および疾病の事象から鳥インフルエンザを除外することに焦点を当てています。野鳥プログラムは、国内の野鳥の監視、研究に関する責任や国際的な責任、そして産業に対する継続的なコミュニケーションが関与する、より大規模な全国的なプログラムの一部です。

国家禽流感野生鸟类监测计划更新

国家禽流感野生鸟类指导小组（National Avian Influenza Wild Bird Steering Group）

由 Tiggy Grillo 博士

澳大利亚国家禽流感野生鸟类指导小组 编制

JAMBA相关条款：III, IV, VI

CAMBA相关条款：III, IV

ROKAMBA相关条款：3, 5

总结

国家禽流感野生鸟类 (NAIWB) 监控方案中的活动已在澳大利亚广泛执行。对野生鸟类禽监测包含两个采样组件：通过对显然健康并被猎杀的野生鸟类采样进行的目标性监测，过对野生鸟类重大不明原因的发病和死亡事件调查进行的一般监控，包括动物园内圈养的鸟类。目标性监测将持续从雁形目（水鸟）类中抽样，特别是从一些已知混合了鸻形以及水禽接近家禽和人类的地方。如果可能，监测将在以前采样的地方持续采样，以获数据。为了预知风险以及流感监测的长期实验性发展，对病毒隔离和禽流感病毒（AIVs因分型将持续是关注的重点。一般（被动）监控关注的是从澳大利亚及澳大利亚南极领鸟类的群体死亡和发病事件中排除禽流感。野生鸟类计划是一个涉及国内鸟类监测、研际责任、以及行业持续交流的大型国家计划的一部分。

국립 야생 조류의 조류 독감(National Avian Influenza Wild Bird Surveillance, NAIWB) 감시 프로그램 추가 정보

야생 조류 독감 국립 운영위원회

(National Avian Influenza Wild Bird Steering Group)

편집:

Tiggy Grillo PhD
호주의 국립 야생 조류의 조류 독감 예찰 프로그램 운영위원회
(National Avian Influenza Wild Bird Steering Group)

JAMBA 관련 조항: III, IV, VI

CAMBA 관련 조항: III, IV

ROKAMBA 관련 조항: 3, 5

요약

국립 야생 조류의 조류 독감(National Avian Influenza Wild Bird Surveillance, NAIWB) 예찰 프로그램에 따라 호주 전역에서 활동합니다. 야생 조류의 조류 독감 예찰에는 두 가지 표본 추출이 있습니다. 육안으로 볼 때 건강한 조류 및 수렵한 야생 조류의 표본 추출을 통한 목표별 예찰과, 동물원 내의 포획된 야생 동물 등 야생 조류의 심각한 이환률 및 사망률의 조사를 통한 일반 예찰입니다. 목표별 예찰은 특히 도요목(섭금류, Charadriiformes)과 함께 서식하는 장소와 기러기목이 가금류와 인간에게 가까이 근접할 수 있는 장소에서 기러기목(물새, Anseriformes)의 표본 추출에 지속적으로 집중할 것입니다. 가능한 경우, 경시적 자료를 얻기 위해 이전에 표본을 추출한 장소에서 예찰을 지속할 것입니다. 위험을 알리고 독감 테스트 방법 개발을 지속적으로 평가하기 위한해 조류독감바이러스(AIV)의 유전자형 진단과 바이러스 분리에 집중할 것입니다. 일반(수동) 예찰은 호주 및 호주남극속령 주변의 야생 조류가 대량 이환 및 사망한 횟수에서 AI 를 제외하는 방식입니다. 이 야생 조류 프로그램은 국내조류예찰, 연구 및 국제적 책임, 산업계와의 지속적인 의사소통 등을 포함하는 보다 광범위한 국립 프로그램입니다.

The NAIWB Surveillance Program continues to provide Australia with important outcomes. These include to:

1. Detect avian influenza in wild birds,
2. Contribute to a better understanding of AI phylogeny and gene flow of subtypes, ecology and epidemiology to support industry and human and wildlife health strategic risk assessment and management,
3. Maintain national avian influenza laboratory diagnostic capacity and capability,
4. Sharing and communication of data nationally and globally,
5. Contribute to One Health through regular communication of AIV data to the Department of Health with specific analysis of wild bird AIVs for likelihood of infection and transmission in humans, and
6. Exclude AIV, specifically H5 and H7, in mass mortality events in wild birds.

Since 2005, over 90,000 wild birds have been sampled as part of active wild bird surveillance at sites in New South Wales, Queensland, Victoria, Tasmania, South Australia, Northern Territory and Western Australia, with 10,641 wild birds sampled between July 2014 and June 2016. In addition, over 2,500 wild bird mortality / morbidity events have been investigated and reported since 2005, with over 600 events investigated and reported between July 2014 and June 2016.

No HPAI AIV has been detected. Almost all AIV subtypes have been detected, including LPAI H5 and H7 subtypes in wild birds in Australia.

Recent avian influenza publications from Australia include:

- Curran et al., (2014) Evaluation of avian influenza serologic and virologic diagnostic methods in wild Anseriformes and Charadriiformes. Avian Diseases, 58(1): 53-59.
- Curran et al., (2015) Serological surveillance of wild waterfowl in Northern Australia for avian influenza virus shows variations in prevalence and a cyclical periodicity of infection. Avian Diseases, 59(4): 492-497.
- Hoque et al., (2015) Epidemiology of avian influenza in wild aquatic birds in a biosecurity hotspot, North Queensland, Australia. Preventive Veterinary Medicine, 118 (1): 169-181.
- Grillo (2015) Contribution to the 2012 Avian Influenza in Wild Birds Surveillance Program. RIRDC Publication No. 15/016. Project No. PRJ-008337. ISBN 978-1-74254-760-2.
- Grillo et al., (2015) Avian influenza in Australia: a summary of 5 years of wild bird surveillance. Australian Veterinary Journal. 93 (11): 387–393. Additional supporting information can be found in the online version of this article at the publisher's website: **http://onlinelibrary.wiley.com/doi/10.1111/avj.12379/suppinfo**. [PDF Attached]
- Ferenczi et al., (2016) Avian influenza infection dynamics under variable climatic conditions, viral prevalence is rainfall driven in waterfowl from temperate, south-east Australia. Veterinary Research, 47 (1): 23.
- Also see WHA website: **https://www.wildlifehealthaustralia.com.au/ProgramsProjects/AvianInfluenzaWildBirdSurveillance.aspx** for a list of references

The NAIWB Surveillance Program continues to provide valuable ecological and epidemiological background information to assist strategic risk management to minimise the economic, environmental and social impacts of AI (or HPAI) on human health, the poultry industry and wildlife in Australia. Importantly, this program is a key source of samples that are positive for avian influenza viruses, which are used to maintain and develop current and specific diagnostic primers and probes. These are essential for continued confidence that the tests being used in Australia will detect any strains of highly pathogenic avian influenza H5 or H7 in the event of an outbreak of these subtypes in poultry. The multi-agency and cross-jurisdictional approach of this project provides a forum for collaboration on technical aspects of influenza in humans, animals and wildlife.

Background:

The National Avian Influenza Wild Bird Steering Group (the NAIWB Steering Group) was established in January 2006 to facilitate collaboration between State and Territory programs and non-government organisations undertaking surveillance for avian influenza. Primary Industry agencies agreed to strengthen national surveillance for avian influenza in both poultry and wild birds.

The NAIWB Steering Group comprises representation from:

- Australian Department of Agriculture and Water Resources (DAWR)
- Australian Department of the Environment and Energy
- Australian Department of Health
- CSIRO Australian Animal Health Laboratory
- DAWR's Northern Australia Quarantine Strategy (NAQS) Program
- State and Territory government animal health departments in NSW, Qld, SA, Tas, Vic and WA
- World Health Organisation Collaborative Centre for Influenza in Melbourne
- Birdlife Australia
- Rural Industries Research and Development Corporation (RIRDC) / Poultry Industry representation
- Deakin University, University of Newcastle, James Cook University

The NAIWB Steering Group is responsible for development and implementation of a yearly operating plan and coordination of surveillance activities for AI in wild birds in Australian states and territories.

Nationally coordinated activities have been conducted since 2006, with funding provided by the Australian Government Department of Agriculture and Water Resources and significant in-kind support provided by the jurisdictional agencies, researchers and representative's institutions.

A combination of healthy, live and hunter-killed wild birds (targeted surveillance) and sick or dead wild birds (general surveillance) are sampled for surveillance. Sources for targeted wild bird surveillance data include state and territory government laboratories, universities and samples collected under Australia's Northern Australia Quarantine Strategy (NAQS) Program. Samples from sick birds include submissions from members of the public, private practitioners, universities, zoos and sanctuaries. Wildlife Health Australia manages the Program.

Results from the NAIWB Surveillance Program are used to inform policy development and planning by Australian government and state/territory government agencies and contribute to Australia's National Animal Health Information System (NAHIS). The data inform Australia's international reporting; as well summary data are provided to industry at regular intervals through each sampling year.

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