Summary—Conserving threatened species

Report 7: 2018–19

Queensland
Audit Office
Better public services

Your ref:
Our ref: 9176P

13 November 2018

The Honourable C Pitt MP
Speaker of the Legislative Assembly
Parliament House
BRISBANE QLD 4000

Dear Speaker

Report to parliament

This report is prepared under Part 3 Division 3 of the *Auditor-General Act 2009*,
and is titled Conserving threatened species (Report 7: 2018–19).

In accordance with s.67 of the Act, would you please arrange for the report to be
tabled in the Legislative Assembly.

Yours sincerely

Brendan Worrall
Auditor-General

Content

Audit objective

The audit objective was to assess whether Queensland public sector entities are effectively identifying, protecting and conserving threatened species.

Our audit focused primarily on the Department of Environment and Science (the department), which has overall responsibility for identifying, protecting and recovering Queensland's threatened species.

We assessed whether the department:

- identifies and lists Queensland's threatened species

- is transitioning effectively to the Common Assessment Method (a nationally consistent method for assessing and listing threatened species)

- has strategies and plans in place to effectively protect threatened species and their habitat

- is effectively monitoring and reporting on threatened species outcomes.

We also included in our audit the Department of Agriculture and Fisheries (responsible for biosecurity, including pest and weed management) and the Department of Natural Resources, Mines and Energy (regulates native vegetation clearing), to understand their contributions to protecting and conserving threatened species.

The scope of the audit did not include all activities, legislation or entities relating to conserving and managing threatened species.

Further details about the scope and approach are in Appendix B.

We would like to express our thanks and appreciation to everyone who made a submission to our audit and to the landholders we visited for their time in contributing to the audit.

Glossary

Term	Definitions
Biodiversity	The variety of all life forms on earth; the different plants, animals and micro-organisms; their genes; and the terrestrial, marine and freshwater ecosystems of which they are a part.
Bioregion	An area comprising broad landscape patterns that reflect major structural geologies and climate as well as major flora and fauna groups.
Biosecurity	Set of preventative measures designed to reduce the risk of transmission of diseases, pest plants, animals and microorganisms.
Connectivity	The many ways that natural systems connect to each other.
Conservation	Preservation, protection or restoration of the natural environment and of wildlife.
Conservation plan	Prepared under the Nature Conservation Act 1992 and administered and approved by the State Minister. Conservation plans can allow for the ecologically sustainable taking and use of protected wildlife from the wild for commercial and non-commercial purposes.
Ecological communities	Naturally occurring group of native plants, animals and other organisms that interact in a unique habitat; structure, composition and distribution are determined by environmental factors such as soil type, position in the landscape, altitude, climate and water availability.
Ecosystem	Dynamic complex of plant, animal and micro-organism communities and their non-living environment, interacting as a functional unit. Regional ecosystems are vegetation communities consistently associated with a particular combination of geology, landform and soil.
Endemic species	Species only found within a defined area; for example, Queensland endemic species are only found in Queensland.
Environmental offsets	Compensates for unavoidable impacts on significant environmental matters, (for example, valuable species and ecosystems) on one site, by securing land at another site, and managing that land over a period of time, to replace those significant environmental matters which were lost.
Habitat	Place where a population lives and the surroundings of that place, both living and non-living.
Iconic species	Species that have inherent social and cultural value.
Key threatening process	Process that threatens or may threaten the survival, abundance or evolutionary development of a native species or ecological community.
Parks management plan	Management statement or plan for each park in the protected area estate that identifies how a park is preserved, enhanced and maintained.
Species project plan	Internal project plan to guide implementation of on ground actions for managing specific species by the Department of Environment and Science.

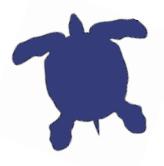| Term	Definitions
Recovery plan	Prepared under the *Environment Protection and Biodiversity Conservation Act 1999* on behalf of the Commonwealth Government. Administered and approved by the Commonwealth Minister. States the research and management actions necessary to stop the decline, support the recovery and enhance the chance of long-term survival in the wild, of a protected community, animal or plant species.
Remnant vegetation	Woody vegetation where the dominant canopy has more than 70 per cent of the height and 50 per cent of the cover relative to vegetation's undisturbed height and cover of that stratum and is dominated by species characteristic of the vegetation's undisturbed canopy. The Vegetation Management Act 1999 only regulates woody vegetation (excluding mangroves) and not grasslands.
Threatened species	Native species under threat of extinction or vulnerable to becoming endangered. A species may be threatened but not yet listed under the *Nature Conservation Act 1992.*
Threatened wildlife	Native wildlife prescribed under the *Nature Conservation Act 1992* as extinct in the wild, endangered or vulnerable. The Act defines conditions and criteria for each classification (extinct in the wild, endangered or vulnerable).
Wildlife–human interactions	Interaction between wild animals and people, and resultant negative impacts on people or their resources, or on wild animals or their habitat.

Key facts

Queensland is home to 85 per cent of Australia's native mammals, 72 per cent of native birds, just over 50 per cent of native reptiles and frogs, and more than 11 000 plant species.

Queensland has 955 threatened species listed under the *Nature Conservation Act 1992.*

The Department of Environment and Science lists the main threats to Queensland's threatened species as:

- clearing of vegetation
- invasive plants and animals
- inappropriate grazing and fire regimes
- climate change.

Management actions to protect and recover threatened species should include:

- assessing species extinction risk
- identifying and managing threats
- prioritising species for management and implementing targeted actions.

Source: State of the Environment Report 2015

Introduction

Australia is home to between 600 000 and 700 000 native species, many of which are unique to Australia. But Australia's native flora and fauna are in decline. Since European settlement, 27 mammals, 22 birds, four frogs, one earthworm and 36 plant species have been declared extinct. More than 1 700 species and ecological communities are known to be threatened and at risk of extinction.

Nature conservation legislation aims to protect Australia's native species by providing systems for identifying and listing species as threatened. This legislation restricts people from taking, keeping or using listed species. But not all threatened species are listed. For example, species are less likely to be listed if insufficient data are available to make an assessment.

In Australia, threatened species can be separately listed and classified at the state and Commonwealth levels. In Queensland, the *Nature Conservation Act 1992* defines threatened wildlife (commonly referred to as threatened species) as native wildlife (both flora and fauna) that is extinct in the wild, endangered or vulnerable. Queensland has listed 955 species as threatened wildlife under the *Nature Conservation Act 1992*; of these, 33 are extinct in the wild, 301 are endangered, 621 are vulnerable. In addition, 267 species are classed as near threatened. The Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* lists 414 of these as threatened nationally.

To reduce confusion and duplication of effort, the governments of Queensland, Western Australia, New South Wales, the Northern Territory, Tasmania, the ACT and the Commonwealth have agreed to establish a consistent method for assessing and listing threatened species: the Common Assessment Method. These governments have signed a Memorandum of Understanding, which includes establishing a single operational list, and cooperating and sharing information.

The diversity and geographical range of Queensland's wildlife present challenges in conserving threatened species. Addressing the decline of threatened species populations is complex and requires a targeted and coordinated approach across multiple agencies to manage threats and conserve habitats.

The Department of Environment and Science has primary responsibility for managing and conserving threatened species in Queensland under the *Nature Conservation Act 1992*. The department is also responsible for assessing nominations for listing threated species. Other legislation influencing the protection of threatened species and their habitats includes, but is not limited to, the *Vegetation Management Act 1999* and *Environmental Protection Act 1994*.

State government responsibility for native species also extends to the Department of Agriculture and Fisheries (DAF) and the Department of Natural Resources, Mines and Energy (DNRME). DAF is responsible for biosecurity issues including pest and weed management, and responsibility for fish and fish habitat. DNRME regulates the clearing of native vegetation, excluding grasslands and mangroves.

Summary of audit findings

This is a summary of the audit findings. More information is in the following chapters.

Listing threatened species

The Department of Environment and Science (the department) does not proactively nominate species for listing or encourage Queensland's community of conservation researchers and stakeholders to make nominations. Therefore, the number of species listed in Queensland's Nature Conservation (Wildlife) Regulation 2006 is likely to understate the actual number of species under threat.

Nominations must be supported by scientific evidence. For some species there is insufficient information to determine whether they are eligible for listing. Yet listing threatened species is the first critical step in their protection. Species that are at risk of extinction but are not listed (or are listed under the wrong classification status) may not be afforded the right level of protection.

Since 2011, the department has received far fewer nominations to list threatened species than in previous years. In 2017, the department received and assessed only seven nominations, compared with 168 in 2011. The average number of nominations received each year from 2012 to 2016 was 31.

Delays between the assessment process and ministers' approval results in some species being assessed as threatened but not listed for years. Of the 404 species listed in 2014 and 2015, the average period between assessment and listing was three years and 10 months. In some cases, the delays were more than seven years. The delays in listing result in delays in species protection.

Once species are listed, the department does not periodically or systematically review their classification. The department, therefore, does not know whether the extinction risk for these species has changed or remained steady.

The department does not publish the Species Technical Committee assessments after their approval (or non-approval) by the minister. This lack of transparency does not promote public trust in the species assessment process because individuals cannot trace a nomination and assessment through to its listing in the Nature Conservation (Wildlife) Regulations 2006.

Common Assessment Method

Queensland is not on track to meet all its obligations to implement the Common Assessment Method for assessing and listing native species, as outlined in the intergovernmental Memorandum of Understanding. While the department expects the necessary legislative amendments will be made within the two-year time frame, it is unlikely that the process to align all legacy species to the common classifications will be completed in that time.

The department needs to strengthen the governance framework for implementing all elements of the Common Assessment Method. There is no clear project owner or oversight committee. The department has a draft project plan for delivering the legislative reform program, but it does not include the activities needed to review and reclassify Queensland's endemic species on the threatened species list in line with the Common Assessment Method.

Without a comprehensive project plan, the department cannot effectively determine major project deliverables, milestones, activities and resources needed.

Planning and prioritising conservation

The department has no strategy or framework for conserving or managing threatened species. This is despite the *Nature Conservation Act 1992* requiring the department to develop an integrated and comprehensive conservation strategy for the whole of the state.

The department previously developed a strategy which it never implemented. Because it has no strategy, its efforts in managing threatened species lack purpose, direction and coordination. The department has not determined its priorities, clear action areas or measurable targets for the recovery of threatened species and habitats. As a result, its activities are generally focused on managing the threats to individual species rather than addressing the common causes of threats. Adopting a more strategic approach would provide a greater chance of achieving outcomes for a broader range of species.

The lack of strategy also makes it difficult for government, researchers and the community to clearly understand what the department does across its programs, why it does it, and what it is trying to achieve.

Previous strategy

The department has not taken advantage of the considerable work it previously undertook to develop a draft strategy.

In 2010, the department (as the former Department of Environment and Resource Management), developed and issued a draft strategy for public consultation. The document, *Building Nature's Resilience—A Biodiversity Strategy for Queensland,* was well researched and developed, and identified a holistic approach to conserving biodiversity. The department finalised the strategy in 2011 but never implemented it.

Prioritising resources and investment

Scientific and biodiversity research shows that the number of species at risk of extinction continues to increase.

The department does not systematically plan where to deploy its available resources to achieve the most effective balance of actions to protect habitats, mitigate threats and reduce species decline. It is not clear how much the department spends each year in total on threatened species management as it does not effectively track and account for funding used on specific activities.

Queensland was the first state in Australia to implement a prioritisation program for threatened species. The department began the Back on Track Species Prioritisation Framework in 2005 to guide conservation management and recovery by government and non-government organisations. However, they have made limited use of the Back on Track priorities. A key reason for this was ineffective engagement between the department, conservation partners and landholders best placed to action the priorities.

The department did not maintain Back on Track and it is now out of date. As a result, the department does not have a state-wide assessment of what management actions have been implemented or their collective impact.

Protecting and recovering threatened species

The department largely focuses on individual species, rather than taking a strategic approach to conserving all threatened species. The department does not currently use a method to prioritise which species will be subject to conservation and recovery projects.

Recovery of threatened species

Monitoring data on population status and trends are only available for a few species. This means that only a few recovery programs can measure the change in species population or status.

The number of recovery plans for threatened species in Queensland is low. Of the 922 species listed as either endangered or vulnerable, the department manages only 30 conservation, recovery or species project plans. The department currently has no recovery or project plans for threatened flora.

Local governments, regional natural resource management bodies, conservation groups, landholders and individuals also undertake various recovery actions for individual threatened species, but the department does not coordinate these activities. The department does engage with stakeholders through joint recovery team operations and some conservation groups.

The department does not have a system to assess and prioritise which species should have management plans. Species were selected for conservation effort based on various reasons such as species knowledge and individual interest within the department, their iconic value or where significant work was done by external conservation bodies.

Having conservation or recovery plans and monitoring programs for all threatened species listed under the Nature Conservation (Wildlife) Regulation 2006 would present significant resource, capacity and logistical challenges. However, having a system to assess and prioritise which species should have management plans would enable the department to ensure it maximises resources and efforts to achieve greater outcomes for those species most in need.

For many listed species with a recovery plan or species project plan in place, the department does not have enough information on the population and species distribution to measure and report on implementation success. With few exceptions, the department does not currently know how threatened species are faring and whether management actions are having the desired impact.

To improve its monitoring and reporting, the department needs protocols for gathering and processing threatened species data into a central database. This would improve the exchange and sharing of knowledge between its own staff and stakeholders. Better collaboration with researchers, conservation practitioners and landholders is needed to collate and analyse population trend data and to prioritise and implement management actions. There are some examples where this does exist such as for estuarine crocodiles and koalas.

Only 12 of the 30 species project plans managed by the department show how much it plans to spend in 2018–19. There is a lack of clear accountability for actions and limited evaluation of management effectiveness.

Threatened species habitat

Habitat loss is scientifically recognised as the greatest threat affecting Queensland's threatened species (flora and fauna). This is backed by habitat modelling and mapping done by the department and independent research. A key challenge for government is that actions to prevent habitat loss can compete with social and economic practices.

The Queensland Herbarium assessed the impact of land clearing on the potential habitat of more than 300 of Queensland's threatened flora and fauna species. It found that the increasing volumes of land clearing between 2013 and 2015 accelerated habitat loss for threatened species. The modelling showed that, by 2015, 26 per cent of remnant threatened fauna habitat and 35 per cent of remnant threatened flora habitat had been cleared statewide.

The *Vegetation Management Act 1999* regulates land clearing. For it to work effectively, landholders need information about the environmental values of their land. While the department's mapping shows environmental values, it does not have consistently collected data about the distribution and abundance of Queensland's threatened species. Information about species distribution underpins the regulated protection of habitats.

An increasing proportion of Queensland's land is protected, but the proportion remains the lowest of any state or territory in Australia. The proportion of protected land is currently 8.2 per cent but is not increasing at the rate needed to meet the 17 per cent by 2020 target set under the UN Convention on Biological Diversity, to which Australia is a signatory.

Despite, managing land with over 1 000 threatened species and having a total 2017–18 budget of $111.3 million, the Queensland Parks and Wildlife Service (QPWS) does not identify specific allocations of funding for the protection and recovery of threatened species on the land it manages.

In 2017, QPWS developed a research prospectus which identifies priority research areas within six themes, including species and ecosystems, significant pest species, and fire ecology and management. But, QPWS does not know if any research partners have started research projects under the identified themes. QPWS does not fund the research and does not currently have a system to gather and record information on which projects are undertaken.

Audit conclusions

Overall, the Department of Environment and Science's response to conserving threatened species lacks cross program coordination and is unlikely to effectively conserve and recover many threatened species. This is because the department has not taken a strategic approach, and has no system to prioritise, coordinate and report on recovery activities, threatened species population trends and the effectiveness of conservation management. It has some evidence of improvements in some threatened species populations or status over time, but it is limited.

Because it has no strategy, the department does not prioritise its activities to achieve the greatest conservation outcomes. Instead, its activities are largely ad hoc and focused on a relatively few individual species. It is also not proactive in listing species as threatened or updating those already listed. The department's decisions about which species receive its greatest conservation efforts are often determined by iconic value, individual interests, departmental knowledge and advocacy, rather than by objective assessments of appropriate priorities.

The department's lack of systematic and reliable threatened species monitoring also means the department cannot detect population changes or quantify the efficacy of its actions. As a result, the department often cannot show how it uses resources to achieve the best conservation outcomes.

Conserving threatened species is a difficult and complex task that requires commitment and effort across government and beyond. During the audit we received many submissions and met with landholders, researchers and conservation groups who showed a high degree of commitment and passion for conserving threatened species. While many remain enthusiastic some expressed frustration and disillusionment with the coordination of activities and the support they were provided. The department has a lead role in coordinating work to conserve threatened species and harnessing the available enthusiasm, resources and knowledge. The need to support, unite and coordinate multiple stakeholders further heightens the need for a strategy with clear objectives, actions, targets and measures.

Recommendations

Department of Environment and Science

We recommend that the Department of Environment and Science:

Listing (Chapter 2)

1. Proactively nominate species for listing or reclassification under the Nature Conservation (Wildlife) Regulation 2006. Classification reviews should be periodical.

2. Review the *Nature Conservation Act 1992* to ensure timely listing of threatened species. This should include amending the legislation so that the minister's decision of whether to add, delete or reclassify a species is reflected in the Nature Conservation (Wildlife) Regulation 2006 within a specified timeframe after receiving the Species Technical Committee's recommendation.

3. Increase the transparency of the threatened species assessment process by publishing online:

   - a public request to encourage nominations to add or delete species from the current list or to change the classification of listed species
   - species nominations received, allowing the public to submit further information that may assist the Species Technical Committee's assessment
   - meetings dates and terms of reference for the Species Technical Committee
   - Species Technical Committee's assessments and recommendations, with supporting scientific evidence to inform future nominations.

   It may be appropriate to refrain from publishing information that could result in further harm to the species.

Common Assessment Method (Chapter 2)

4. Further develop and implement its draft project governance framework and project plan for the Common Assessment Method project to ensure the department meets all its obligations under the Memorandum of Understanding.

5. Review the classification status of Queensland's native species currently listed in the Nature Conservation (Wildlife) Regulation 2006 to prepare for the transition to the Common Assessment Method.

   This includes reassessing Queensland's threatened species classifications where they are inconsistent with the Commonwealth's threatened species list.

Conservation planning and oversight (Chapters 3 & 4)

6. Develop an integrated and comprehensive conservation strategy for Queensland to meet the requirement of the *Nature Conservation Act 1992*.

   The strategy should be supported by plans for:

   - investment and implementation
   - engagement and communications
   - monitoring and evaluation.

7. Monitor and report on the population and trends of threatened species by:

- prioritising species for monitoring to make the most of available resources
- developing data collection protocols to ensure consistency and rigour
- improving data management and access
- reporting on recovery activities within government and by external partners
- reporting on the effectiveness of conservation management outcomes.

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