

# Management of threatened and priority species in the karri forests



All State-owned forests in the South West of Western Australia are managed in accordance with the *Forest Management Plan 2014-2023* (Conservation Commission, 2013). In accordance with the Plan, forests are managed by the Department of Biodiversity, Conservation and Attractions (DBCA). The Forest Products Commission (FPC) is responsible for harvesting and regeneration in accordance with the principles of Ecologically Sustainable Forest Management.

The FPC's *Karri forest management plan* describes the steps taken by the FPC to make sure that forest harvesting activities do not threaten the survival of threatened and priority species, in the karri Forest Management Unit (FMU).

The pure and mixed karri forest covered by the Forest Management Plan is located within the Warren Bioregion. The Warren Bioregion is one of 89 large geographically distinct Australian bioregions classified by the Interim Biogeographic Regionalisation for Australia (IBRA).

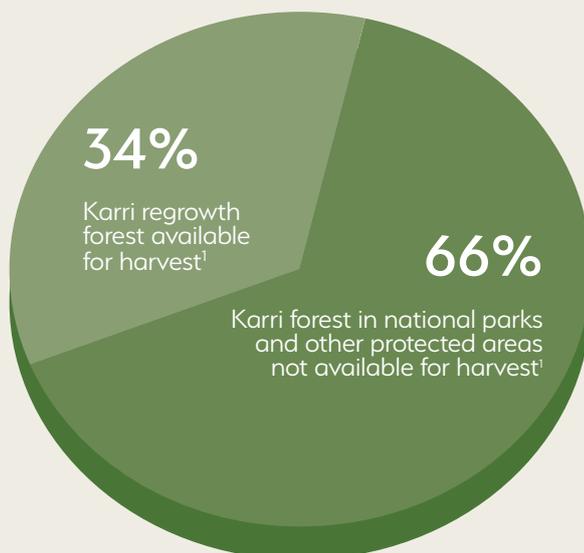
Under the Convention of Biological Diversity, Australia is working towards a target of 17 per cent of our continent to be protected as part of the National Reserve System. Priority is given to under-represented bioregions that have less than 10 per cent of their remaining area protected in reserves. The Warren Bioregion is one of the best reserved of all the IBRA Bioregions with more than 30 per cent reserved. Within the karri forest on public land, approximately 66 per cent is in national parks, reserves and other protected areas that are not available for timber harvesting<sup>1</sup>. This includes all areas identified as old-growth karri forests.

As part of the FPC's harvest planning process the following areas are identified and excluded from harvesting: any additional areas of old-growth forest, river and stream zones, diverse ecotype zones, travel route zones, poorly reserved vegetation complexes, and poorly reserved Darling Scarp forest ecosystem. In addition, fauna habitat zones (FHZ) are retained to provide refugia for fauna.

## Threatened and priority flora and fauna

In Western Australia, the *Biodiversity Conservation Act 2016* provides for the conservation and protection of native plants (flora) and animals (fauna). The Act allows the Minister for Environment to declare a higher level of protection to flora and fauna that are likely to become extinct; are rare; or otherwise in need of special protection. The lists of specially protected flora and fauna are published in the Government Gazette as the Wildlife Conservation (Rare Flora) Notice and the Wildlife Conservation (Specially Protected Fauna) Notice.

The specially protected flora and fauna published under the respective Notices are referred to as threatened species. Priority species are those species that may be threatened or near threatened, but are data deficient and have not yet been adequately surveyed, and therefore are not eligible for listing as specially protected under the Act.



Graph 1: This graph represents the total area of karri forest estate in the South West under the Forest Management Plan 2014-2023.

1. Appendix 6 - Conservation Commission of Western Australia. 2013. *Forest Management Plan 2014-2023*. Conservation Commission of Western Australia, Perth.

Priority species may also have been removed from the threatened list and require monitoring, or are conservation dependent species that are subject to a specific conservation program.

The FPC works with the DBCA to ensure it has identified whatever threatened and priority species are likely to be present as part of pre-harvest planning. As the conservation status and presence of threatened and priority flora and fauna species changes, it is important to ensure that up-to-date information is kept for management planning purposes.

## Forest management

Using the best available information (e.g. recovery plans, research), the FPC and the DBCA implement precautionary measures to mitigate the impact from a range of disturbance activities on declared threatened and priority species. For example, as a result of the last review of silvicultural guidelines (2011), additional mature habitat retention requirements were put in place, as it was recognised that in some cases mature forest elements may not be present in the adjoining reserves such as stream or road reserves. This additional requirement helps ensure the recolonisation of harvested areas by species, such as the Red-tailed Black Cockatoo, that rely on mature habitat elements such as marri trees with hollows.



The FPC takes management actions to protect threatened species in karri forests.

During harvest planning, biological diversity is managed by taking into account maintenance of landscape heterogeneity, maintenance of connectivity, retaining key structures as legacy elements, regeneration and compositional diversity.

## Fauna

The Forest Vertebrate Fauna Distribution Information System (FDIS) is an important tool used by the FPC as part of its harvest planning. FDIS was developed based on scientific knowledge available on vertebrate species in the South West and validated against fauna occurrence records. The FPC uses FDIS to predict the likely occurrence of threatened and priority species in respective sites prior to any harvest activity. Where the FDIS report shows the potential presence of a threatened or priority species, for example, the Western Ringtail Possum, Forest Red-tailed Black Cockatoo, or the Chuditch, the DBCA are consulted. The DBCA may require special management strategies to be implemented to mitigate potential impacts of harvest activity.



During fauna monitoring, the use of cameras for data collection causes minimal disturbance to target species such as quokkas.

In addition, the FPC has commenced targeted fauna surveys prior to harvest activities to identify threatened and priority species. It is intended that these surveys will help to further validate the FDIS system, provide additional survey data showing confirmed sightings of species, and potentially identify specific habitat elements being utilised by rare, threatened and priority species. In addition, it may also help identify presence of predator species. These surveys will provide further guidance to ensure appropriate management strategies are implemented.

For fauna like the quokka, species decline is predominantly due to fox predation. Therefore, one important management strategy is the implementation of additional fox baiting before, during and after harvesting disturbance where species vulnerable to fox predation may be located. Part of this fox baiting is achieved through the DBCA's Western Shield baiting program. In addition, each year the FPC contributes funds towards additional baiting at the harvest coupe level.



Photo: A pair of Forest Red-tailed Black Cockatoos at a hollow of a marri tree. Trees like this are considered primary habitat trees. Photo taken by Tony Kirkby, WA Museum.

For species like the Forest Black Cockatoos, hollow-bearing trees are an important habitat. These generally occur in older trees (including trees within old-growth forests<sup>2</sup>), where limbs have been shed, resulting in hollow formation.

Primary and secondary habitat trees are retained within harvest areas. A primary habitat tree is likely to contain one or more hollows, whereas a secondary habitat tree has the potential to develop one or more hollows as it ages.

Secondary habitat trees are retained, to replace primary habitat trees when they eventually die and decay. There are a number of criteria used to select habitat trees. These criteria were developed from research which examined tree characteristics indicative of the presence of hollows.



Primary and secondary habitat trees are retained within harvest areas.

2. All areas identified as old-growth forest are unavailable for timber harvesting.

## Flora

As part of harvest planning, the FPC undertakes additional measures to mitigate potential effects of harvesting on threatened and priority flora species. Prior to harvesting desktop searches are undertaken, and on-the-ground flora surveys are conducted in areas of permanent or semi-permanent disturbance, such as roads, log landings and gravel pits. These surveys are undertaken by qualified experts. Where necessary, actions – as directed by the DBCA – are taken to protect specific flora species. This may include changes to road alignments or exclusion of some areas from any harvesting disturbance.

## Stakeholder consultation

There are a number of ways in which interested parties have an opportunity to provide their feedback to help ensure the protection of threatened and priority flora and fauna. This includes:

- Direct consultation with the FPC prior to harvest operations (e.g. at the time of the public release of one year indicative harvest plans, which are made available on the FPC's website). This can include consultation on-site prior to harvesting, where for example, stakeholders may have knowledge of particular cockatoo nesting trees.
- Feedback can be received at any time on the FPC's *Karri forest management plan* and *Karri forest High Conservation Values (HCV) Assessment*. Further information is available on FPC's website. [www.fpc.wa.gov.au](http://www.fpc.wa.gov.au)
- Recovery plans developed at a National level undergo public consultation before they are finalised.
- Recovery plans developed by the DBCA undergo expert review by a range of stakeholders and they can be modified as new information and knowledge about a species is discovered.
- The DBCA provides information about threatened and priority species on their website. In addition, the community is invited to submit nominations to add taxa to, or delete taxa from the current Declared Rare Flora and Specifically Protected Fauna list as described on the DBCA's website. [www.dpaw.wa.gov.au](http://www.dpaw.wa.gov.au)