

Thursday 12th May, 2016

Draft Perth and Peel Green Growth Plan
Department of the Premier and Cabinet
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To Whom It May Concern:

BirdLife Australia is a highly respected science-based conservation organisation with more than 85,000 supporters across the country. We have over 32 community branches, including a very active network in Western Australia.

Initially, BirdLife Australia welcomed the commitment by Commonwealth and Western Australian Governments to take a more strategic approach to the management and protection of Matters of National Environmental Significance (MNES) within the Perth and Peel regions. Used well, strategic assessments have the potential to take account for cumulative impact. If the *Perth and Peel Green Growth Plan for 3.5 million* was likely to improve environmental outcomes for MNES in the Perth Peel region, we would not oppose it.

However the current draft of the Plan seeks to approve the destruction of more than 30,000 hectares of Carnaby's Black-Cockatoo habitat. Carnaby's is already declining at an alarming rate. The past six years of BirdLife Australia's *Great Cocky Count* suggest that the Perth population is declining by around 15% per annum. To conserve Perth's population of Carnaby's the clearing of its habitat needs to be halted, not accelerated as proposed by this Plan.

The Plan's proposal to remove around 50% of the known feeding habitat for this species in the Perth-Peel area is likely to result in a similar (50%) decline of the bird. This is negligently inconsistent with the species Recovery Plan, and indeed the objectives of the EPBC Act. The conservation measures proposed in the Green Growth Plan are inadequate and based on cherry-picked literature. Promises to increase the level of protection of existing feeding habitat (already being used by the cockatoos and protected to some degree) are more than cancelled out by the loss of habitat in areas of prime habitat zoned for development. The bottom line is that less habitat cannot sustain the same number of cockatoos.

The *Green Growth Plan* should outline a strategy for protecting Perth's iconic Carnaby's Black-Cockatoo population, not significantly increase its risk of extinction. The Plan is a lost opportunity to integrate world's best practice in biodiversity and urban planning. It lacks vision in terms of providing incentives for Councils and Private Landholders to protect and restore habitat and connectivity for MNES.

BirdLife Australia acknowledges the Plan has some positive proposals that have the potential to protect and enhance a number of key estuarine/wetland habitats and the species that depend on them. If implemented, we believe these initiatives will help arrest the deterioration of, and in some instances enhance, the ecological character of the Ramsar-listed Peel-Harvey-Yalgorup Wetland system. However some of these initiatives are likely to be eclipsed by developments (such as the Point Grey Development) that have not been factored into the planning (see Appendix 3).

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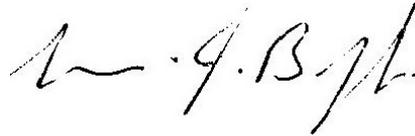
BirdLife Australia staff and volunteers from our Western Australia Branch have endeavoured to work collaboratively with the Western Australian Government over the last three years in the hope that the Strategic Assessment would deliver improved environmental outcomes. However we are disappointed to see that our advice has been largely ignored, predominately in relation to the conservation of Carnaby's Black Cockatoo, and the complete failure to even consider listed species such as the Fairy Tern within the Plan.

Cities and biodiversity are not incompatible. Many progressive cities around the world successfully integrate urban growth and biodiversity. BirdLife Australia believes the Plan in its current form requires significant change and a commitment to participatory planning with ecological experts to arrest the decline of Carnaby's Black Cockatoo in Perth. We would welcome an opportunity to work with the government to do this.

Yours sincerely,



Paul Sullivan
CEO



Mike Bamford
Convenor – Western Australia Branch

Table 1. Summary of issues

Commitment/ environmental value	BirdLife position	Justification	What amendments or alternatives are we asking for?	Related links
<p><i>Gap:</i> Commitment to adequately manage for the long-term viability of Carnaby's Black-Cockatoo.</p> <p>Actions proposed by the Green Growth Plan are inconsistent with the Carnaby's Black-Cockatoo Recovery Plan</p>	<p>A new commitment is required in response to this gap</p>	<p>The Plan seeks approval for the removal of around 50% of the known feeding habitat for this species in the Perth-Peel area. The remaining Perth-Peel Carnaby's population is projected to decline by a similar amount (50%).</p> <p>Removal of the remaining pine plantation, without viable replacement, as well as further clearing of Swan Coastal Plain and Jarrah Forest used by Carnaby's Black-Cockatoos will therefore result in an unacceptable outcome, inconsistent with both state and federal commitments.</p> <ul style="list-style-type: none"> • The accelerated removal of the Gnangara pine plantation, without planned, suitable replacement will directly result in an unacceptable decline in the Perth and Peel Region's Carnaby's population. • The additional removal of 14 100 ha of known feeding habitat of Carnaby's Black-Cockatoo will place additional significant pressure on the survivorship of the Perth-Peel population, particularly during the non-breeding season. • The replanting of 5 000 ha of pine specifically as a food source for Carnaby's Black-Cockatoo is proposed on a timeline that is inappropriate, planted in an arrangement with no indication of giving maximum benefit and lacks a clear commitment to maintaining the viability of these pines as an ongoing food source. In light of this we find it tokenistic and unacceptable. • Commitments to revegetation activities were vague and therefore unlikely to firmly benefit Carnaby's. • Actions proposed by the <i>Green Growth Plan</i> are inconsistent with the Carnaby's Black-Cockatoo Recovery Plan and federal MNES commitments: <ul style="list-style-type: none"> ○ The recovery plan clearly identifies that 'clearing of feeding habitat on the Swan Coastal Plain (e.g. <i>Banksia</i> woodlands and commercial pine plantations which provide a significant food resource)' forms a significant known threat to the species. ○ The Carnaby's Cockatoo Recovery Plan identifies that a reduction in the Carnaby's population of 10% (pooled over three years) is the cut-off at which the plan is deemed to have not succeeded. ○ Population Viability Analysis for Carnaby's Black-Cockatoo 	<p>See Appendix 1 this submission.</p> <p>The <i>Green Growth Plan</i> be brought into alignment with the recovery actions outlined by the Carnaby's Black-Cockatoo Recovery Plan</p> <p>The clearing of the pine plantation be immediately ceased until adequate replacement feeding habitat becomes available.</p> <p>Existing native feeding and roosting habitat be protected with vegetation corridors be planted to create connectivity in already cleared landscapes.</p> <p>Replanting of feeding vegetation for Carnaby's be conducted in a way that maximises long-term food availability for Carnaby's across the landscape.</p> <p>Clear, quantifiable commitments be made for revegetation activities, in terms of species composition.</p> <p>The approach to anthropogenic and environmental water use should be balanced, open, and forward-thinking. This means serious consideration</p>	<p><i>Draft EPBC Act Strategic Impact Assessment Report Part D: MNES Assessment – Chapter 15</i></p> <p>Section 3 of the <i>Draft Action Plan F – MNES Conservation Commitments</i>,</p> <p>Carnaby's Black-Cockatoo Recovery Plan (Department of Parks and Wildlife 2013)</p>

		(Williams <i>et al.</i> in prep.) predicts a 50% (10% of the total population) decline in Carnaby's as a direct result of the clearing of the Gnangara mound, shows the <i>Green Growth Plan</i> proposes to directly undermine the success of the Carnaby's Cockatoo Recovery Plan	of alternative water sources outside of the Gnangara aquifer to feed Perth's water supply requirements, as well as considering all extraction sources on the Gnangara mound.	
<p><i>Gap:</i> Commitment to protection of habitat for Migratory Shorebirds</p> <p>Commitment to protect Migratory Shorebirds from disturbance as a result of increasing human population</p>	A new commitment is required in response to this gap	<p>The Plan does not address the issue of increasing water use and its effect on the quality and availability of shorebird habitat.</p> <p>The Plan does not address the key threat of disturbance to EPBC listed shorebirds, which is highly likely to increase in intensity with an increasing human population</p>	See Appendix 3.	
<p><i>Gap:</i> Commitment to protection of habitat for the Fairy Tern</p>	A new commitment is required in response to this gap	<p>The Fairy Tern (<i>Sternula nereis nereis</i>) is a migratory seabird listed as Vulnerable under both state and federal legislation. A migratory subpopulation of the Western subspecies has significant reliance upon the Strategic Assessment Area as both a breeding ground and as part of a migratory flyway.</p> <p>Under the definition provided on p48 of the Strategic Conservation Plan, the tern's significant reliance upon the strategic assessment area should mean that specific conservation commitments be made for it. However the Fairy Tern is not mentioned in any of the Green Growth Plan documentation.</p> <p>The Fairy Tern makes use of wetlands, tidal and coastal flats, beaches, islands and coastal habitat of southwestern Australia. The Fairy Tern is vulnerable to anthropogenic disturbance at these locations, as well as predation from introduced cats and foxes. During breeding and pre-migration, the Fairy Tern is particularly vulnerable to interruption to oceanic food sources as a result of disturbance and pollution. While some part of its habitat overlaps with that used by migratory shorebird species, not all of it does. It is acknowledged that the growth of the human population within the Perth-Peel area will continue to place pressure on the Fairy Tern and its habitat, so commitments must be made to address it.</p> <p>At present there are no commitments to maintain the quality of coastal habitats, in particular oceanic water quality and pollution minimisation and control.</p>	<p>Commitments be included that will ensure the long-term viability of this species with the assessment area through the protection, maintenance and possible enhancement of suitable breeding, roosting and foraging habitat for use by the species within the Strategic Assessment Area.</p> <ul style="list-style-type: none"> • Reduce disturbance at key breeding, roosting and feeding sites. • Undertake research to improve knowledge about the species and inform conservation effort and management in the Strategic Assessment Area. 	<p>Strategic Conservation Plan, p 47-48.</p> <p>Dunlop (2015) Fairy Tern Conservation in South-Western Australia.</p>
<p><i>Gap:</i> Commitment to improved ecological connectivity and urban corridors in the Strategic</p>	A new commitment is required in response to	<p>Various conservation objectives and commitments within the GGP refer to habitat connectivity, for example:</p> <ul style="list-style-type: none"> • "Maintain habitat connectivity across the Strategic Assessment Area between the north-eastern and southern extent of the species' range 	It is suggested that a greater commitment to maintaining and enhancing ecological connectivity could	<p>Strategic Conservation Plan p 50</p> <p>Action Plan G p7</p>

Assessment Area	this gap	<p>(the conservation objective for Carnaby’s Black-Cockatoo (<i>Calyptorhynchus latirostris</i>); Strategic Conservation Plan, p50)</p> <ul style="list-style-type: none"> • “Improve habitat connectivity and ecological linkages through revegetation and replanting programs in conservation reserves, RSNA’s and other retained areas” (State Commitment #9 in relation to the maintaining the representation, viability and ecological function at the species population and community level (the objective for the State factor – Flora and Vegetation, Action Plan G, p7). <p>The GGP proposes a Conservation Program in response that will include the following on-ground management activities: revegetation (re-establishment of native vegetation in degraded areas) and rehabilitation (repair of ecosystem processes) focused on improving habitat quality for multiple species and restoring or improving habitat connectivity and ecological linkages across the landscape” (Action Plan H, p11).</p> <p>In general the commitment to maintain and improve ecological connectivity is focused on proposed conservation areas, with no evidence presented that these areas provide the habitat requirements for all MNES species, and no ecological analysis of the habitat ranges of these species, and their ability to move across the landscape that is planned.</p> <p>BirdLife acknowledges that ecological connectivity has been a consideration in various parts of the impact assessment, and is alluded to as a consideration in the State’s commitments (as per the reference to Action Plan H). However, there is a significant need for more direct commitments to maintain and enhance connectivity, particularly where remnant habitat is already largely fragmented.</p> <p>The GGP provides little evidence of how the commitment to maintain ecological connectivity, in light of a 7000 ha net loss of native vegetation, will be planned, implemented and monitored.</p> <p>Further, there is little discussion of the ecological connectivity value of rivers and other waterways, and other existing native vegetation.</p> <p>BirdLife acknowledges that significant benefits occur through the actions of city councils and private landholders to manage and protect bushland, rivers and other natural areas for conservation, and to plant urban gardens and verges to provide ecological function and connectivity.</p> <p>Most Town and City Councils within the assessment area have some provision for habitat creation and protection, including big tree registers, advice on selection of suitable native plants, supply of street trees, or encouraging and rewarding native gardens, such as City of Cockburn’s Green Links Program. Together these have created, protected and</p>	<p>be achieved by:</p> <ul style="list-style-type: none"> • the formal recognition of regionally significant ecological linkages (such as in the Peel Region Scheme); • The inclusion of provisions in the Scheme which require the maintenance and enhancement of regional ecological linkages for their ecological, water quality improvement and stormwater management values (in that order) • Incentives for private landholders to restore or create habitats and vegetation patches within identified linkages should be included as a commitment of the plan. This would provide the much-needed connectivity, particularly in established suburbs, connecting bushland and wetlands. These could be for the planting of solely native trees, to create an urban forest, or to supplement native species with food trees to benefit particular species, such as almonds and macadamias to benefit Carnaby’s Black-Cockatoo. 	Action Plan H, p11
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		<p>managed habitat and ecosystem function throughout the assessment area.</p> <p>The SAPPR process and propose Strategic Conservation Plan has not recognised this approach to conservation as a more cost-effective means of achieving conservation outcomes. Furthermore these private actions have the potential to create the corridors alluded to, but not provided for, under the plan.</p>		
<p><i>Gap:</i> Recognition of private land conservation</p>	<p>A new commitment is required in response to this gap</p>	<p>BirdLife acknowledges the many significant efforts of private landholders to manage and protect bushland, rivers and other natural areas for conservation, and to restore degraded habitat so that it continues to provide ecological function.</p> <p>Schemes such as Land for Wildlife and the Serpentine-Jarrahdale Conservation Zone have protected and managed habitat throughout the assessment area. Most Town and City Councils within the assessment area have some provision for habitat restoration and protection, including big tree registers, advice on selection of suitable native plants, or encouraging and rewarding native gardens.</p> <p>The SAPPR process and propose Strategic Conservation Plan has not recognised this approach to conservation as a more cost-effective means of achieving conservation outcomes. Examples of sites where private land conservation has been effective are Lowlands and the Kingia Properties in the Shire of Serpentine-Jarrahdale (both properties support MNES and State environmental values).</p>	<p>The Strategic Conservation Plan should include several new initiatives for the protection of remnant habitat on private land.</p> <p>A Voluntary Conservation of Private Land Scheme would take advantage of the benefits and cost-effectiveness of securing private lands for conservation. This initiative could include an incentives scheme for eligible landholders to make entry into the Scheme financially appealing, and support on-going management costs.</p> <p>A compulsory Big Tree Register for each Council in the assessment area would encourage councils to protect and retain large, old habitat trees, particularly in established suburbs.</p>	

Appendix 1

Green Growth Plan and Carnaby's Black-Cockatoo

Overview

BirdLife Australia is pleased to see the December 2015 draft of the *Perth and Peel Green Growth Plan for 3.5 million* (hereafter *Green Growth Plan*) acknowledge the importance of protecting Carnaby's Black-Cockatoo, an iconic, but endangered, West Australian. Taking a strategic approach to urban development provides a unique opportunity to stabilise the declining Carnaby's Black-Cockatoo population. Despite the listed objective, unfortunately the strategies proposed by the current draft of the *Green Growth Plan* will fall well short of achieving this aim. Given the unparalleled opportunity the *Green Growth Plan* presents to secure the future of this endangered species, as the Western Australian Government is mandated to do under the Carnaby's Black-Cockatoo Recovery Plan, we feel it critical to address these shortfalls. In the following submission, BirdLife highlight the particular parts of the Green Growth Plan that are contradictory, problematic and unviable to the long-term survival of Carnaby's Black-Cockatoo in the Perth and Peel region, and provide solutions to these.

The proposed reduction in Carnaby's Black-Cockatoo habitat in the Perth and Peel Region will have a deleterious effect upon the population of this endangered species. Carnaby's are known to be reliant upon pine plantations for food and shelter. Removal of the remaining pine plantation, without viable replacement, as well as further clearing of Swan Coastal Plain and Jarrah Forest used by Carnaby's Black-Cockatoos will decimate this already much-reduced population. This is an unacceptable outcome, inconsistent with both state and federal environmental responsibilities. We are pleased to see some commitments to ongoing monitoring of this threatened species, but monitoring alone will not conserve Carnaby's Black-Cockatoo. BirdLife Australia rejects the assumption that the decimation of a threatened species is an acceptable price for the development of the Perth and Peel Region.

BirdLife Australia considers that:

- The *Green Growth Plan* is inconsistent with the Carnaby's Black-Cockatoo Recovery Plan and federal MNES commitments.
- The accelerated removal of the Gnangara pine plantation, without planned, suitable replacement will directly result in an unacceptable decline in the Perth and Peel Region's Carnaby's population.
- The additional removal of 14 100 ha of known feeding habitat of Carnaby's Black-Cockatoo will place additional significant pressure on the survivorship of the Perth-Peel population, particularly during the non-breeding season.
- The replanting of 5 000 ha of pine specifically as a food source for Carnaby's Black-Cockatoo is proposed on a timeline that is inappropriate, planted in an arrangement with no indication of giving maximum benefit and lacks a clear commitment to maintaining the viability of these pines as an ongoing food source. In light of this we find it tokenistic and unacceptable.
- Commitments to revegetation activities were vague and therefore unlikely to firmly benefit Carnaby's.
- Considering the pine removal in isolation of broader water extraction issues on the Gnangara Mound and the Perth water supply is a close-minded approach.

BirdLife Australia proposes instead:

- The *Green Growth Plan* be brought into alignment with the recovery actions outlined by the Carnaby's Black-Cockatoo Recovery Plan and federal MNES commitments.
- The clearing of the pine plantation be ceased, to maintain both a food source and landscape connectivity for Carnaby's.
- The avoidance of clearing further native feeding habitat, with vegetation corridors be planted to create connectivity in already cleared landscapes.
- Replanting of pine specifically as a food source for Carnaby's be conducted in a way that maximises long-term food availability for Carnaby's across the landscape.
- Clear, quantifiable commitments be made for revegetation activities, in terms of species composition.
- The approach to anthropogenic and environmental water use should be balanced, open, and forward-thinking. This means serious consideration of alternative water sources outside of the Gnamptara aquifer to feed Perth's water supply requirements, as well as considering all extraction sources on the Gnamptara mound.

Carnaby's Black-Cockatoo Population Dynamics

- The population of Carnaby's Black-Cockatoo is not robust and stable but in decline. As a result, future stresses will have a disproportionate impact upon population health and size.
- The more genetically diverse western population of Carnaby's should be prioritised for protection.
- Not enough is known about subpopulation movements to judge which breeding grounds the birds using the Gnamptara pines use, so proposed actions outside the assessment area will be happening blindly and without confirmed benefit.
- Carnaby's are capable of surviving stochastic events such as bushfire, but areas of high food value, such as pines, become critical in supporting displaced birds until burned areas recover and regenerate.

The consequences of reduction of Carnaby's feeding habitat and inevitable reduction in population cannot be considered in isolation. Between the 1950s to the early 2000s Carnaby's Black-Cockatoo had already experienced significant decline. It is estimated in that period Carnaby's disappeared from 30% of their former distribution, their known breeding range contracted by over a third, and their total estimated population declined by 50% (Garnett & Crowley 2000; Mawson 1995; Saunders & Ingram 1998a, b). Furthermore the Great Cocky Count, conducted annually since 2010, has recorded a decline in excess of 45% of the Perth-Peel Carnaby's population in the period 2010 – 2014 (Finn *et al.* 2014), attributable directly to the removal of the Gnamptara pines as a food source. There can be no doubt this is a species that has already experienced a dramatic, widespread decline, and populations on the Swan Coastal Plain could most conservatively be estimated as having declined by a staggering 75% since the 1950s. The impacts of the *Green Growth Plan* upon the population of Carnaby's Black-Cockatoo are therefore not impacts on a robust, stable population able to respond well to stochastic events, but impacts on a population likely less than a quarter the size it was 65 years ago, a population potentially skewed towards older birds past breeding age and suffering from effects of a drying climate (Saunders *et al.* 2011).

Despite being a species that is found throughout the southwest, Carnaby's Black-Cockatoos cannot be treated as a single, continuous population. Genetics studies, long-term banding recoveries, and tracking data show Carnaby's form distinct subpopulations, with habits and movements that are consistent and repeatable on both daily and seasonal scales (Rycken *et al.* 2015, White *et al.* 2014, Saunders *et al.* 2011). Given the genetic diversity of the western Carnaby's population (White *et al.* 2014), there should be increased effort in conserving this diverse population. A population's inherent genetic diversity leaves it better placed to have the diverse physiological mechanisms to survive stochastic events such as extreme heat events, and will assist the species in coping with a changing climate (Fuller *et al.* 2010). It is therefore important to ensure the Perth and Peel population of Carnaby's is treated as a subpopulation of the more widespread species, and it is vital that this subpopulation, not just the species as a whole, maintains long-term viability.

Furthermore, despite what we do know about Carnaby's movements in their breeding and non-breeding habitats, we are yet to fully understand subpopulation dynamics of where birds from particular non-breeding roost sites go to breed. In particular, we do not know the location of the breeding grounds used by Carnaby's using the Gnangara pine plantation. Because of this knowledge gap, there is substantial potential to mismatch effort. The *Green Growth Plan* proposes to sacrifice 10% of the total population of Carnaby's by clearing the pines on the Gnangara mound. Where Table 3 in *Draft Action Plan F: MNES Conservation Commitments* identifies the installation of artificial hollows as a mitigation action, without full understanding of the seasonal movements and migration pathways used by these subpopulations, this action has the potential to have negligible benefit.

Carnaby's Black-Cockatoos are able to survive broadscale habitat removal events, such as bushfire and habitat clearing, provided that the displaced birds have access to viable interim food sources and roost sites until the habitat recovers and regenerates. The recent Great Cocky Count, held on Sunday 3rd April 2016, recorded evidence of this - a 'megarost' of 4897 Carnaby's Black-Cockatoos in the Pinjar Pine Plantation, due east of Yanchep National Park. This was confirmed as an accurate count in additional surveys over the following days. It is important to emphasise several points. Firstly, this is not a previously undiscovered Carnaby's roost site. This roost site has been surveyed thoroughly in previous Great Cocky Counts, as have other roost sites in the vicinity. Dedicated volunteers reconnoitre the plantation thoroughly in the lead up to the count to ensure no additional roosts exist/ are being used. Roost sites in this area do consistently recorded large numbers of Carnaby's, highlighting its importance as an ongoing food source. However given the number of extremely large bushfires that have occurred in the last 18 months throughout Carnaby's range, with fires consuming large swathes of Carnaby's habitat including Cape Arid, Two People's Bay, Northcliffe, Lower Hotham, Waroona, Yarloop, Parkerville and Moore River we view this flock as a displaced group seeking temporary refuge in the pines. As a result, this flock emphasises the importance of high-value food sources such as pines in supporting Carnaby's, particularly in aiding survivorship of stochastic events.

Inconsistency with the Carnaby's Black-Cockatoo Recovery Plan and MNES Commitments

- Actions proposed by the *Green Growth Plan* are negligently inconsistent with the Carnaby's Black-Cockatoo Recovery Plan, and will directly result in the failure of the recovery plan.
- The literature has been cherry-picked to provide support for the actions proposed in the *Green Growth Plan*.

- Changing the tenure of existing feeding habitat will have no immediate benefit and arguably minimal long-term benefit to Carnaby's, and in the context of the assessment area will still result in a net loss of 17 600 ha of Carnaby's habitat.
- The *Green Growth Plan* requires a more robust approach to the factors that influence reproductive success of Carnaby's, not just installation of artificial hollows.

Section 3 of the *Draft Action Plan F – MNES Conservation Commitments*, provides a common 'Conservation Outcome' for 'Listed threatened species and ecological communities'. It claims that the "conservation status of [Carnaby's Black-Cockatoo], as a listed threatened species in the Perth and Peel regions will be maintained, and where possible improved, with measures and actions consistent with any approved Commonwealth recovery plans, threat abatement plans or conservation advice". In its current form, the *Green Growth Plan* is negligently inconsistent with the Carnaby's Black-Cockatoo Recovery Plan.

The *Draft EPBC Act Strategic Impact Assessment Report Part D: MNES Assessment – Chapter 15* cherry picks from the Carnaby's Cockatoo Recovery Plan (Department of Parks and Wildlife 2013) in determining that the *Green Growth Plan* is consistent with the outcomes of the Recovery Plan. When listing threats to the species (s15.9.6), the document ignores that the recovery plan clearly identifies that 'clearing of feeding habitat on the Swan Coastal Plain (e.g. *Banksia* woodlands and commercial pine plantations which provide a significant food resource)' (Department of Parks and Wildlife 2013) forms a significant known threat to the species. The Carnaby's Cockatoo Recovery Plan (Department of Parks and Wildlife 2013) identifies that a reduction in the Carnaby's population of 10% (pooled over three years) is the cut-off at which the plan is deemed to have not succeeded. Using the information provided in *Chapter 15*, it is outlined that 20% of the Carnaby's population is associated with the Perth-Peel area. That 50% of that population (10% of the total), is associated with the Gngangara pines, and the Population Viability Analysis for Carnaby's Black-Cockatoo (Williams *et al.* in prep.) predicts a 50% (10% of the total population) decline in Carnaby's as a direct result of the clearing of the Gngangara mound, shows the *Green Growth Plan* proposes to directly undermine the success of the Carnaby's Cockatoo Recovery Plan.

The *Green Growth Plan* congratulates itself for not clearing 116 000 ha of Carnaby's Black-Cockatoo feeding habitat (s15.1.6), suggesting that this will improve the population viability in excess of that modelled by Williams and colleagues (in prep). Given that this 116 000 ha is already available to Carnaby's as a food source, and that the proposed action of adding these 116 000 ha to the conservation reserve will involve neither restoration of degraded habitat nor revegetation of existing habitat, this statement is bewildering. Across the entire assessment area, there will still be a net loss of Carnaby's foraging habitat - 9 700ha of Swan Coastal Plain feeding habitat; 4 400ha of Jarrah Forest feeding habitat, and the estimated 3 500 ha of pine plantations (the remaining 8 500 ha minus the 5 000 ha proposed replanted pines). The argument that altering tenure will increase protection makes the assumption that there will be resources available to appropriately manage these lands. The current scenario does not favour this outcome. As a result of understaffing, employment freezes and ongoing budget cuts the Department of Parks and Wildlife has difficulty managing existing lands, even where management plans exist (e.g. Lake McLarty). To assume that this will change without a proportional increase in funding and resources is unrealistic. Under existing resourcing levels, 'managed' lands will continue to degrade, particularly with increased recreational pressure from a growing population.

Pine plantations are known to provide a critical food source for Carnaby's Black-Cockatoos. Not only do pines feed adult birds, but they contribute to the breeding success rates as pine is used as a food source when breeding pairs still have dependent young. Removal of these will not just reduce the size of the population, but also reduce the breeding success of the individuals that remain. The Carnaby's Black-Cockatoo breeding habitat outlined in *Commonwealth IAR Part D* takes a very narrow approach to breeding success. While feeding habitat in the immediate vicinity of breeding sites is considered critical, so are food resources where juveniles are still dependent upon adult birds for food. A robust approach to breeding success should encompass protecting existing breeding habitat as well as protecting the foraging resources of dependent young.

Vegetation Clearing: Pines

- Clearing of the pines without replacement is directly correlated to the decline of Carnaby's.
- Increasing the proposed clearing rate of the pines will increase the rate of decline of Carnaby's.
- Immediate cessation of pine harvesting on the Gngangara mound will provide the best outcome for Carnaby's.
- The prioritised protection of mature pine at keystone sites will ensure these sites continue to support Carnaby's in the face of stochastic events.
- Retaining wildings in the landscape to provide additional food and corridors across the landscape, and provide a mitigating food source.
- Long-term strategies should consider the reimplemention of a pine rotation system, with benefits to Carnaby's, the timber industry, and the potential to reduce groundwater salinity levels as long as these do not result in perverse outcomes for biodiversity and the environment.
- Offset commitments must focus on protection of breeding and non-breeding habitat.

Habitat loss and fragmentation are considered the key drivers of Carnaby's decline (Department of Parks and Wildlife 2013). Pine plantations are known to provide a critical food source for Carnaby's Black-Cockatoos (Stock *et al.* 2013), with around 50% of Carnaby's in the Perth and Peel region roosting within 1km of the Gngangara Pine Plantation complex (Byrne *et al.* 2015). The cessation of the pine plantation rotation system at Gngangara, and the systematic removal of these pines, without substantial replacement, has seen an ongoing, annual reduction of Carnaby's Black-Cockatoo populations in the Perth-Peel region of 15% per year (Finn *et al.* 2014; Byrne *et al.* 2015; Williams *et al.* 2015). If this rapid decline in both flock size and number of occupied roosts is representative of the wider population trends of the species, this is clearly unsustainable for such a long-lived, slow-breeding species (Williams *et al.* 2015).

That the response proposed by the *Green Growth Plan* to this acknowledged trend is to increase the annual harvesting rate and remove all remaining pines by 2020 is absurd. That this is done while touting the *Green Growth Plan* as supporting black-cockatoo conservation is ludicrous. At completion, this action will remove around 50% of the known feeding habitat for this species in the Perth-Peel area (D. Mitchell, pers. comms.) The remaining Perth-Peel population is projected to decline by a similar 50% (Williams *et al.* in prep). This component of the plan is incompatible with the Green Growth Plan's stated objective of preserving Carnaby's Black-Cockatoos, and incompatible with federal responsibilities of protecting this endangered species.

We propose that clearing on the Gngangara pine plantations be ceased immediately. Modelling suggests that this is the land management option that is projected to have the least impact on Carnaby's (Williams *et al.* in prep). While the legacy of historical clearing is still projected to reduce Carnaby's population size, this strategy will result in the best outcome for this threatened species. The Carnaby's Black-Cockatoo Recovery Team is in a fortunate position compared with Recovery Teams for other threatened species, as historical and ongoing research have provided a wealth of information to better inform and direct recovery actions. This is one of the few species where a reliable estimate of population trend exists, and a rare example where PVA modelling is informed by a large proportion of field-collected data, not just assumptions. It appears the Department of Premier and Cabinet have downplayed the credibility of this data and modelling based upon it simply because they don't like what the numbers tell them. It is known what is required to save this species. All that is lacking is government commitment.

Pine is acknowledged as an important food source for Carnaby's, both for adults in the non-breeding season, and for adults feeding dependent young. Carnaby's Pines also provide favoured roost sites, however it is the close proximity of other resources – predominantly water and Banksia woodland for mixed foraging, that make the pines viable. There are several locations that seem disproportionately favoured by Carnaby's, by their close proximity to these other vital resources. One of these is on the Pinjar pine plantation, the location of the 'megarost' in the 2016 Great Cocky Count. This site has historically and continues to support high numbers of Carnaby's. The site is in close proximity to water in Yanchep National Park and to patches of remnant Banksia Woodland provide corridors.

At present wildings, pines that recolonise themselves immediately after harvest, are cleared as part of the site preparation process for the next rotation's planting. However these pines, spread throughout the landscape, and allowed to grow in a more open form that supports increased pine cone formation compared with pines planted in timber plantation density, can provide an important food and protection resource for Carnaby's. Carnaby's Black-Cockatoos move large distances on a daily basis, and are at increased risk of predation as they fly across open landscapes. When accompanied by dependent young, they are less able to move across the landscape quickly, as the young birds need to stop and rest frequently (T Douglas, pers. obs.). Elements in their habitat that assist them in moving across the landscape should therefore be retained.

To retain maximum food for Carnaby's on the northern Swan Coastal Plain, BirdLife Australia advocate that the immediate pine production commitments under the Wesbeam agreement be supplemented by pine from outside the Gngangara pine plantation area, where the pine rotation system is still operating, and alternative food sources exist for Carnaby's. In the long-term, if pine plantations were to be re-established on existing cleared land within the assessment area they would likely provide significant benefit to Carnaby's. Not only would it provide a continuous food source for a threatened species, but it would have the added benefit of being land with a clear management commitment, in addition to the obvious economic benefit. Plantations could be placed strategically as they have in other areas, to fulfil ecosystem functions such as reducing salinity levels in catchments (e.g. Denmark River, see Bari *et al.* 2004). However, this in no way negates the critical importance of food resources for Carnaby's in the Gngangara area. If no alternative arrangement can be reached to fulfil Wesbeam obligations, BirdLife suggest instead that structural adjustment packages be directed to protecting habitat where it is needed and where it will provide direct benefit to Carnaby's, i.e. the protection of known food resources such as the Gngangara pines, rather than the reservation of vegetation of unknown foraging benefit.

Conversion to 'grassland'

- Fallow land has substantial fire risk potential.
- Replanting corridors will have positive outcomes for both mobile and less agile fauna, and replanting with Banksia and other Carnaby's food plants that don't recolonise easily will provide significant conservation benefit.

The Green Growth Plan proposes to leave vast swathes of land as 'grassland', or 'low water use vegetation', to facilitate water recharge into the Gngangara aquifer. There has been no further information to support that this will be anything other than leaving the land fallow, to be taken over by perennial invasive weed species. Under a drying climate, encouraging the proliferation of an unmanaged, highly-flammable vegetation type is unethical and irresponsible. Repeated raking and burning of ex-pine plantation will result in not only more wildfires burning said grassland, but where grassland adjoins Banksia woodland, a long term reduction in the viability of the 'conservation reserve' the *Green Growth Plan* has promised to establish, not to mention an ongoing threat to lives and infrastructure. The value of Banksia woodland as a food resource is known to increase with increasing age of the vegetation (Valentine *et al.* 2014).

'Grassland' provides no habitat value to Carnaby's Black-Cockatoo, nor any other native species. We propose instead several alternatives. Where land has already been cleared, a return to some proportion of native habitat will provide some benefit to native species, including Carnaby's. Understorey species have shown some capacity for regeneration following pine harvesting, although banksia species are often absent. BirdLife advocate where existing pine has been harvested and the area is not designated to be replanted, corridors of banksia and other canopy species be replanted to provide connectivity and ecosystem function across the landscape.

Pine Replacement

- The proposed pine replacement strategy is flawed in several ways that make it inherently not fit for the purpose of providing an alternative food source for Carnaby's Black-Cockatoo.
- The replanting schedule and the clearing schedule do not align, creating a clear gap in Carnaby's food availability.
- Lack of clarity on the arrangement and location of these pines make it unclear whether this arrangement will be of maximum benefit to Carnaby's.
- There is no certainty provided with regards to ongoing management and retention of these pines

The plan proposes to ameliorate some of the negative impacts of the Gngangara pine removal by the re-planting of 5000ha of pines, with the primary objective of this becoming an ongoing food source for Carnaby's into the future (4.5.3). However this tokenistic effort is unsuitable in timing, extent, and lacks a clear commitment to maintaining the viability of this 5000 ha of pines as a food source into the future.

Timing

As pines don't begin producing food for Carnaby's Black-Cockatoo until approximately 10 years old (p4), with replanting only starting in 2012, under this proposal there will be a two year gap between when the *entire* Gngangara plantation is cleared in 2020 and when the first 500ha of replanted trees start producing cones in 2022. It is further accepted that younger trees do not produce cones at the same density as mature trees, taking 45 years to reach maximum cone production (according to *Action Plan E*, p4). Based upon these grounds, the proposed clearing regime for the Gngangara plantation is unacceptable, and in direct opposition to the

outlined Conservation Outcome of threatened species, particularly Carnaby's (*Draft Action Plan F – MNES Conservation Commitments*, Section 3).

As old stands of pines produce a disproportionately higher yield of seeds compared with younger trees (Stock *et al* 2013). Therefore retention of middle- and older-aged trees should be prioritised.

Extent

Draft Action E – Pine Harvesting outlines 'considering that the prime objective of the 5,000 ha of pines is to provide food for Carnaby's cockatoo, the pines will not all be planted as a traditional plantation but some will be established over a wider area or in different arrangements so as to maximise the food resource while providing the same groundwater recharge.'

The specific arrangement of trees can have dramatic impacts upon the density of cone production in pine (Per Christensen, pers. comm.). The optimised densities of pine trees planted for timber production are pine trees planted for cone production are different. Where the draft plan allocates 5000ha of pine to be replanted at suitable stem density, we propose instead that these be planted at a lower density. We request some clarity

The replanted pines should be spread across the Gnangara, Pinjar and Yanchep pine plantation areas. Clumping trees in a few areas will have limited benefit to Carnaby's.

Continued viability of replanted pines as a food source

A commitment needs to be made to the ongoing management of these trees, to ensure their continued viability as a food source. If these pines were to die prior to maturity, or eradicated by fire, then there needs to be plan for management and replacement.

Native vegetation clearing

- Given the historical clearing of the Perth-Peel region, measures to retain the quality of existing habitat should be maximised, and the proposals to clear native vegetation should be avoided.
- Particular attention should be given to maintaining and improving the condition of high-quality habitat, particularly where it exists as islands and forms corridors through the landscape.

Draft Action Plan F: MNES Conservation Commitments outlines the proposed clearing of an additional 14 100 ha of Carnaby's Black-Cockatoo foraging habitat, consisting of 9 700 ha of Swan Coastal Plain feeding habitat (assumed to be primarily Banksia Woodland), and 4 400 ha of Jarrah Forest feeding habitat. Historical and ongoing clearing of native vegetation for agriculture and urban development has already removed.

While the Green Growth Plan outlines that the proposed model will have less impact than a 'business-as-usual' approach to clearing, this does not provide an optimal result for native flora and fauna. Instead existing intact native habitat should be retained, and existing cleared land should be used for development.

As detailed in *Action Plan F*, the conservation objective for Carnaby's Black-Cockatoo is the continued use of the Strategic Assessment Area through the maintenance of habitat and connectivity of habitat throughout and outside the region. The *Green Growth Plan* gives no indication of how habitat and connectivity will be maintained. This is particularly incongruent with the replacement of patches of habitat and corridors with 'grassland', as proposed in Action Plan E.

Balancing needs

The future of Perth's water resources need to be considered from a balanced perspective of both environmental and anthropogenic water requirements. This draft of the *Green Growth Plan* demonstrates that extraction requirements are being considered ahead of environmental matters, particularly MNES.

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Appendix 2.

2.1 Identification of species impacted by the *Green Growth Plan*

The Strategic Conservation Plan fails to identify all of the species of threatened avifauna (Wildlife Conservation (Specially Protected Fauna) Notice 2015) that have high or moderate reliance upon the Strategic Assessment Area (Table 4.4; p50), as outlined in s4.3.2 (p48) of the *Strategic Conservation Plan*. While Carnaby's Black-Cockatoo is misidentified as *Calyptorhynchus baudinii*, not correctly as *C. latirostris*, Baudin's Black-Cockatoo (*C. baudinii*) is missing from the list altogether, despite the Strategic Assessment Area incorporating significant parts of Baudin's overwintering range (Johnstone & Kirkby 2008). Baudin's Black-Cockatoo are mentioned in other accompanying documentation. The Fairy Tern (*Sternula nereis nereis*) was also absent, despite having moderate reliance upon the Strategic Assessment Area for breeding and as part of a known migration route. We make the following suggestions for their inclusion, using the format provided in Table 4.4:

Scientific name	Common name	EPBC status	WA status	Conservation objectives
<i>Calyptorhynchus baudinii</i>	Baudin's Black-Cockatoo	Vulnerable	Endangered	<ul style="list-style-type: none"> • Maintain the long-term viability of the species within the Strategic Assessment Area through the protection and maintenance of a mosaic and diversity of suitable habitat including: <ul style="list-style-type: none"> – habitat within the Jarrah Forest IBRA region; and – key resources that provide for feeding, breeding and roosting. • Undertake actions that contribute to the conservation of habitat outside of the Strategic Assessment Area. • Maintain habitat connectivity to facilitate species movement within and outside the Strategic Assessment Area. • Undertake research to improve knowledge about the species and inform conservation effort and management in the Strategic Assessment Area.
<i>Sternula nereis nereis</i>	Australian Fairy Tern	Vulnerable	Vulnerable	<ul style="list-style-type: none"> • Maintain the long-term viability of the species within the Strategic Assessment Area through the protection, maintenance and possible enhancement of suitable breeding, roosting and foraging habitat for use by the species within the Strategic Assessment Area. • Reduce disturbance at key breeding, roosting and feeding sites.

				<ul style="list-style-type: none"> • Undertake research to improve knowledge about the species and inform conservation effort and management in the Strategic Assessment Area.
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2.2 Conservation Objectives

The Conservation Objectives (s4.3.2, p48) of the *Strategic Conservation Plan* emphasise the key concept of long-term viability, however this phrase is absent from the Conservation Objectives outlined in Table 4.4 for both Carnaby's Black-Cockatoo and the Forest Red-tailed Black-Cockatoo. Claims of conservation of Carnaby's Black-Cockatoo and Forest Red-tailed Black-Cockatoo are meaningless without aiming for long-term viability of populations. We suggest the following correction:

Scientific name	Common name	EPBC status	WA status	Conservation objectives
<i>Calyptorhynchus banksii naso</i>	Forest Red-tailed Black-Cockatoo	Vulnerable	Vulnerable	<ul style="list-style-type: none"> • Maintain the long-term viability of the species within the Strategic Assessment Area through the protection and maintenance of a mosaic and diversity of suitable habitat for use by the species within the Strategic Assessment Area. • Protect habitat in the Strategic Assessment Area that is required to maintain the north-western extent of the species distribution and population. • Maintain habitat connectivity across the Strategic Assessment Area between the north-eastern and southern extent of the species' range. • Undertake research to improve knowledge about the species and inform conservation effort and management in the Strategic Assessment Area.
<i>Calyptorhynchus latirostris</i>	Carnaby's Black-Cockatoo	Endangered	Endangered	<ul style="list-style-type: none"> • Maintain and improve the long-term viability of the species within the Strategic Assessment Area through the protection and maintenance of a mosaic and diversity of suitable habitat for use by the species including: <ul style="list-style-type: none"> – habitat within the Swan Coastal Plain IBRA region; – habitat within the Jarrah Forest IBRA region; and – key resources that provide for

				<p>feeding, breeding and roosting.</p> <ul style="list-style-type: none">• Undertake actions that address and replace the lost feeding habitat within areas of pine plantations.• Undertake actions that contribute to the conservation of habitat outside of the Strategic Assessment Area.• Maintain habitat connectivity to facilitate species movement within and outside the Strategic Assessment Area.• Undertake research to improve knowledge about the species and inform conservation effort and management in the Strategic Assessment Area.
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Appendix 3

BirdLife (WA) Response to the Perth Peel Green Growth Plan (PPGGP) as it effects the Peel Region.

Prepared by Ken Monson on behalf of BirdLife (WA).

General Statement

This BirdLife (WA) submission mostly limits its concerns to the potential impact of the PPGGP on the habitats of *avian species*, although such habitats would also support multiple forms of species.

PEEL REGION.

One of the dominant attributes of the Peel Region is its extensive internationally recognised estuarine system. As such, the focus of BirdLife (WA)'s concerns in the Peel Region has been on the habitats and biodiversity it encompasses. It is essential to understand the extent to which we are dealing with an integrated system, one that includes a variety of both wetlands and drylands. It contains extensive bush nature reserves, public open space, buffer zones, estuaries with their inter-tidal mud flats, lakes, tributaries with their riparian vegetation and vital catchment areas.

They are all part of one inter-dependent network. What happens in one part of that system can have implication throughout the system. To ignore this reality will result in either diminishing or, in some cases, completely negating positive, environmental efforts elsewhere in the system to the ultimate detriment of the biodiversity that those environmental projects are targeting.

From the perspective of BirdLife (WA), the PPGGP has advanced some very positive proposals that have the potential to protect and enhance a number of key estuarine /wetland habitats and the species that depend on them. If implemented, resourced, and maintained (policed) at least 8 of the initiatives, either fully, or in part, address issues that BirdLife(WA) identified in its August 2014 submission to the *Strategic Assessment of Development Plans for the Peel Region on Matters of National Environmental Significance*. Furthermore the initiatives will contribute to meeting some of our international environmental obligations in that they will both arrest deterioration of, and in some instances enhance, the ecological character of the Ramsar listed Peel- Harvey-Yalgorup wetland system.

Those initiatives include:

- Substantial increase in number and size of National Parks and Nature Reserves.
- Steps to reduce nutrient run-off into the Swan and Canning Rivers and Peel-Harvey estuaries, and to ensure the health of these systems into the long term.
- Establishment of the Peel Regional Park.
- Supporting the inclusion of additional lakes and wetlands into Ramsar site 482.
- Establishment of new wetland buffer zone policies.
- A new management model to improve protection of threatened species, wetlands and ecological communities
- Under the above management model, improve habitat quality through revegetation, rehabilitation, control of threats such as weeds, disease, feral animals, uncontrolled access and restoring habitat connectivity (see Action Plan A to E). These initiatives are to be in partnership with local government and community groups.
- Extending Reserve protection deeper into inter-tidal areas.

- The purchase of strategically and environmentally important private land holdings throughout the Perth and Peel Regions, but particularly important to improve the environmental connectivity in sections of the Peel Regional Park.
- Establishing the Conservation Framework (F and G) and Programme (H).
- Establishment of a Marine Management area for the Peel-Harvey Estuary and its major tributaries.
- The recognition of the vital role that research and community participation will play in this process is particularly applauded.

BirdLife (WA) is encouraged by these proposals, and wants to play a part in contributing to their successful implementation. To help achieve this we need to ensure that they are not undermined by other, independent, planning decisions elsewhere in the system.

To this end BirdLife (WA) wishes to detail an overriding concern relating to the method of application of one of the critical outcomes being sought through the implementation of the Green Growth Plan.

That 'critical outcome' is:

"Cutting red tape by securing up-front Commonwealth environmental approval and streamlining State environmental approvals for the development required to support growth to 3.5 million people."

We believe that the approach appears to be based on an assessment of *static* circumstances, with apparently no wriggle room for exceptions. We further believe that, without modification it represents a planning flaw that has the potential to generate unforeseen outcomes of a nature inconsistent with the very positive conservation targets so strongly presented in the Green Growth Plan. Unchanged, BirdLife (WA) believes this process has the potential to generate the very circumstances it is trying to minimise (prolonged appeals, legal challenges etc.). Because this outcome is so central to the planning processes recommended in the PPGGP, it is incumbent on BirdLife to fully explain our objections, to highlight the potential consequences and to recommend modifications which all parties should be able to live with.

The basis of our concern is that ecosystems are dynamic and planning models need to both recognise that and be responsive to it. Failure to do so is almost certain to result in conflict between planning and reality.

The foundations upon which plans have been structured can alter. There are a range of locations and circumstances, some of which can be identified in advance, where planning models will clearly need to be flexible and adaptable. Consequently we don't believe that environmental circumstances can be sufficiently stable as to permit an administratively clear cut dual system of demarcation between areas available and 'streamlined' for development (in that they present criteria meeting the 'class of action' as detailed in Action Plans A to D), and areas quarantined for conservation (as per Action Plans F,G and H).

Unfortunately, as best we can understand, it appears to BirdLife (WA) that whether a development is to be assessed under the streamlined environmental approval process (in that it fits within a class of action as detailed in Action Plans A to D), or whether the development has to meet relevant conservation and environmental commitments (as detailed in Action Plans F and G) depends upon a pre-determined static assessment of the targeted habitat area and its species.

Are we correct in our interpretation that if an area or habitat has not been pre-determined as an area of National Environmental Significance or meeting State environmental standards, as detailed in Action Plans F and G, then the developer is not required to submit an Environmental Impact Statement?

Who determines, and when is it determined that a proposal is subject to a particular set of Action Plans?

Given that eco systems are dynamic and planning processes need to be able to accommodate that characteristic, if significant new information becomes available when is there opportunity to submit, for example, new material as fulfilling the criteria for recognition as a MNES?

It is untenable to BirdLife (WA) that in WA these classifications could not change over the 30 year life of this Plan.

There are clearly areas that have not yet been assessed as areas of high conservation value but where it would be folly to lock in a pre-conceived rigid planning classification thus permitting development to go ahead, exempt of an environmental assessment process. Some of these areas of doubt can be identified in advance. Two categories are immediately obvious.

1. One group of them can be identified by their proximity to an area already recognised as a habitat of conservation significance. They may be outside an identified zone of conservation value, such as wetlands, A-Class reserves, or even one of the 13 Important Bird Areas (IBAs) located in the Perth and Peel Regional Areas, but they are within sufficient distance whereby *particular forms* of development have the potential to be harmful, even from a distance of over a kilometre away.

For example, developments such an open cut mine with a refinery pumping out material from its smoke stacks, an army rifle range, the relocation of a large noisy motor racing complex, or a windfarm in the known flight-path of migrating shorebirds. Similarly, some industries don't need to be close to wetlands to lower the water table that impacts on those wetlands or to destroy the quality of those wetlands through the leaching, or injection of toxins into the water table. Consequently we cannot limit our protective efforts to activities that may occur within an area already classified as one of environmental significance (Action Plans F, G & H). Our radar needs to remain focused on those locations where particular industries, such as those with extended zones of impact, could still harm protected biodiversity in Reserves far removed. It appears that there is no flexibility to request an environmental assessment in such circumstances yet these are the very situations that could undermine expensive conservation goals and commitments identified in the Green Growth Plan.

For example, Lake Preston at Myalup.

As part of an effort protect Lake Preston the Green Growth Plan has identified a strip of land surrounding the 27km long lake for priority acquisition in Phase. 2.

Immediately to the east of the central and southern sections of the Lake, on both sides of Forrest Highway, are intensive market gardens. There is also cleared farming land, natural bush and pine plantations. From what we understand, if any development was to be proposed on land outside of the proposed reserve zone, it would not be subject to an environmental impact study.

There is every probability that new, or more intensive, industries will want to establish in this area.

Some are likely to want to draw down on the water table, some may discharge chemicals into the water table (eg. run- off or wind drift, of agricultural fertilizers and pesticides), some may want to extract resources, others may seek to process resources. Whether they are wineries, boutique breweries, more market gardens, sand or limestone extraction industries, mining exploration, up-market tourist accommodation or even intense residential development, the fact that they are outside the proposed reserve area should not exempt them from an assessment of their potential impact on that reserve lake system.

We are not proposing that their development should be excluded, but without an assessment of their environmental impact, there is no way of knowing whether

responsible conditions need to be imposed in order to ensure such developments do not harm the lake.

It would be a futile and wasteful exercise to purchase private land on one side of the lake in order to protect its integrity, only to have that effort negated by permitting 'streamlined' developments in an area, and of a nature, that could well impact on the lake.

2. A second area of exception relates to those habitats not initially identified as areas of National Environmental Significance, but where new information demonstrates that they should now be included as such. This would apply to those circumstances where there has been new conclusive information regarding the discovery of a threatened or classified species, and where the occurrence of the species is not simply the chance identification of a vagrant, passing through. Such grounds would include evidence of the species remaining over an extended period (or in the case of migrants, a pattern of returning seasonally), evidence of it feeding, roosting or breeding in the area etc.

Under such circumstances the environmental attributes of these habitats need to be assessed and, if that assessment demonstrates that the existing habitat classification needs modification, then that habitat needs to be recorded as falling within a different 'class of action'. Consequently its relevance to particular Action Plans is also likely to change. In some instances this assessment is likely to indicate that the habitat should now be identified as an area of National Environmental Significance or in an area that is significant to State environmental and conservation commitments.

These latter classifications must not be static and there should be a clear process for assessing new locations as to their National or State Environmental Significance. This process could be either an open continuous opportunity or, for example, new applications for assessment could be submitted on an annual set date. In this way government can control the flow and manage the process.

To give an example from the Peel Region where new information has contributed to reshaping planning objectives for an area:

Seven years ago there were plans to develop a community of 100,000 people on 4,000 hectares of mostly government owned land, at a location known as Keralup. Its southern boundary overlapped the northern boundary of the Peel location of Nambeelup. Much of the area is low-lying ephemeral wetland catchment ground for the Serpentine River, and local lakes. It had already been established that sections of this extensive catchment is responsible for large amounts of pollution that makes its way, via the Serpentine, into the Peel Estuary.

We understand that the plan to develop Keralup has now been shelved. Although building difficulty on this land with its resulting expense (huge amounts of landfill required) was possibly the driving factor, the *increasing scientific evidence* as to the extent of the pollution coming from this area, and its impact on the estuary system to its south, meant that environmental concerns became prominent and had to be taken into consideration alongside other construction impediments.

Similarly, seven years ago there were no recordings of waterbirds, including migratory shorebirds, sighted on or around, the Nambeelup ephemeral wetland/catchment system, extending into the Keralup area.

However, through regular observation and formal surveying over the last 7 years, we now know that it is a vitally important location, where, in one 200 hectare

section of the location, over 120 avian species have been recorded. Amongst those species there are 54 species of waterbirds.¹

Included amongst those waterbirds are 17 species of migratory shorebirds, quite a few of which have shown tight site fidelity over those years. Some of them are uncommon elsewhere and are protected under Federal Legislation.

It is now a reality that much of the area that once was to be urbanised will now be utilised for long-term drainage intervention programmes, together with a suite of other "high priority measures to improve water quality". We understand that amongst these measures is the option of establishing some engineered artificial wetlands.

BirdLife (WA) believes this presents an opportunity to establish a conservation park consisting of both bushland and professionally constructed extensive wetlands, linking them, via the Serpentine River and the associated lake system, into the Ramsar listed Peel-Harvey Estuary.

Apart from creating its own permanent population of waterbirds and bush birds (and the tourist interest that would result) closed sections of it would also offer effective refuge for both migratory and local species when summer recreational pressures are greatest on the estuary.

The example above has been given as it highlights the importance of flexibility of planning response, demonstrating, as new data becomes available, the weighting given to particular values can shift. Strong public sentiment supported by credible data can change political, economic and environmental values and, as a consequence, planning objectives.

A second example relates to land holdings on the western edge of the Harvey Estuary.

Much of the western edge of the Peel-Harvey Estuary has been urbanised, broken only by a few small parks or public open space. Birds seeking refuge or feeding opportunity on the western side of the estuary, particularly when frequent strong off-shore winds whip up waves driving them from the eastern banks, have very limited protected and secluded habitats to which they can retreat in safety.

However, on this western side of the Harvey Estuary, south of the Estuary Hideaway Holiday Park, many of the private land holdings between Old Coast Road and the estuary are large acreages and extend right to the water's edge, with no gazetted buffer zone. Most are well vegetated, with houses set back close to the road. Amongst them are allotments yet to be built on.

BirdLife (WA) believes it is essential to preserve the last of uncleared land on the western side of the estuary, not only for the benefit of the shorebirds but for retaining bush bird habitat (the strip between the western side of the estuary and the ocean is narrow). Although the Mandurah Council discourages development close to the water's edge, most of the lots do not have an effective gazetted buffer zone protecting the estuary.

Wrens, whistlers, honeyeaters, cuckoos, robins, thrushes, pardelotes, thornbills, parrots and raptors will progressively disappear from this strip if vegetation is not protected.

It is BirdLife's understanding that because these properties are privately owned, and already zoned residential, they were 'out-of-bounds' for consideration under the terms of reference of the Perth and Peel Green Growth Plan. Consequently, as a result of not securing 'upfront' Commonwealth and State environmental recognition, any future developmental proposals for these properties will not require an environmental impact study, nor permit public input. They are the very type of waterfront property that are lusted after by developers, to carve up into smaller, profitable lots. Even if local Government wished to protect this land, our

interpretation is that they would have little chance of success under these proposed 'streamlining' arrangements.

The Green Growth's planned 'revised Wetland Buffer Policy' must include this very type of privately owned land adjoining wetlands and rivers. Failure to do so would represent an ineffective response to controlling nutrient run-off and protective vegetation for both waterbirds and bush birds. The WA Auditor General, in his 2014 Annual Report identified pollutant run-off from urban development as a significant contributor to the poor health of the Swan River. ²

It is pointless to allocate huge resources preventing nutrient run-off from up-stream government owned catchment areas, but simultaneously allow for new water edge urban private development around the estuary.

On page 9 of the BirdLife (WA) *Submission to the Strategic Assessment of Development Plans for The Peel Region on Matters of National Environmental Significance*, we provided examples, and photographic evidence, of the harmful effects of residential run off on the biodiversity of the estuary. One of our strongest recommendations was that buffer zones "*must no longer be tokenism, puny little strips of bush, many of which appear to be established more for screening and cosmetic reasons, rather than being based on maintaining the bio-diversity of the region.*"

Further we specifically identified private land.

***"Where private land runs down to the Estuary or to associated wetlands, and where there are either no buffer zones or totally inadequate buffer zones, sufficient land should be purchased in order to ensure that buffer zones are established in line with the principles above".
Consequently we believe two things should happen.***

The first is that where there is not already built structure right on the waters' edge that, as a high priority, an effective buffer zone be gazetted around the entire Peel-Harvey Estuary and all associated Ramsar lakes, rivers and wetlands . This may require adding caveats to privately owned land or, where essential, purchasing that land.

The second involves adding to the extent of bush retained around the estuary (particularly the western foreshore) by seeking out the remaining blocks that have not been built on, and determining whether owners wish to sell (BirdLife understands that there are some who would consider sale). Given that they are large, well vegetated blocks their acquisition, in combination, could preserve large sections of bush and prevent future urban development around the estuary with its inevitable, increase in nutrient and chemical run off.

Zoning of the Regional Park.

An over-riding concern in regards to the establishment of the Regional Park relates to its zoning.

Because this Park is one integrated, inter-dependent system, with its combined habitats representing one of Australia's biodiversity hot spots, it is absolutely essential that its future gazetted zoning affords it the highest level of protection available.

The proposed Regional Park will absorb a number of existing Nature Reserves, protected under the CALM Act.

Once established it will represent an amalgamation of those Nature Reserves with areas reserved as Regional Open Spaces, under the existing Peel Regional Plan.

BirdLife (WA) believes it would be ideal if the whole of the Regional Park had a *common, single, zoning classification*, offering the highest level of protection, *which needs to be an 'A' Class Nature Reserve*.

However, we are aware that some government departments are supporting a mixed zoning classification within the Regional Park in order to facilitate the establishment of nodal tourist access points at key locations throughout the Park, with corridors (walk tracks, canoe trails etc.) linking the nodes. We further understand that some departments consider that many of the sites currently gazetted as public open space under the Peel Regional Plan should be the areas reserved for appropriate recreation and tourist infrastructure

BirdLife would like to make the following observations.

Amongst the objectives of the Green Growth Plan is a high priority given to improving habitat quality through revegetation, rehabilitation, control of access, *increasing habitat connectivity* etc.

If this target is to be successful then it should be expected that conservation standards, and classification levels, of some of the sites currently listed as Regional Open Space, under the Peel Regional Plan, should receive upgrading to a higher conservation category. Consequently BirdLife (WA) is of the opinion that the blueprint for recreation and tourist options should be very carefully designed and held off until detailed assessment can occur.

We are absolutely adamant that *there must be no down grading of any existing A Class Reserve Status*, in order to accommodate tourist infrastructure and access.

It is extremely important to state that A Class Reserve Status does not prevent appropriate forms of activities within those reserves, but it does require a responsible case to put to both houses of State Parliament and we understand it also permits Commonwealth scrutiny.

This is exactly what we believe should be the case with the whole of the Regional Park.

It is one thing to argue for a streamlining approval process outside of environmentally sensitive areas, but BirdLife believes there is no place for it within conservation areas.

When the Regional Park is first gazetted, a significant block of locations can be presented for the approval of the tourist nodes, allowing for future supporting infrastructure and inter-node linking access, and also prescribing varied recreational activities, compatible with the conservation goals.

All can be achieved within an A Class Reserve.

If there were to be areas zoned 'Public Open Space' within the Regional Park, then it would be far more difficult to control the nature and scale of tourist infrastructure and recreational activities, in those areas.

Furthermore, multiple levels of zoning unavoidably generate multiple levels of oversight and responsibility.

This is one of the very problems that have been plaguing the management of the estuaries and wetlands for a long time.

To quote BirdLife's Strategic Assessment Submission (August 2014), p4,

*"Many of the problems facing the estuary and the wetland system can be attributed to inefficient and unnecessarily complex management structures. Responsibilities for the health of the system resemble a schizophrenic spider web of un-coordinated jurisdictions and confusing administrative boundaries. From a planning perspective there is clearly no governing body with comprehensive knowledge and overriding authority. This is precisely the same issue identified by the W.A. Auditor- General in regards to the declining health of the Swan River. He identifies the numerous overlapping authorities from state and local government as creating contradictory policies and priorities as well as contributing to gaps in accountability."*²

With the establishment of the Regional Park we have a once only chance to medicate the schizophrenic spider. Common zoning and consistent processes are fundamental to reducing responsibility overlap and to the establishment of one cohesive conservation plan.

Acquisition of Private Holdings.

The staged purchase of private holdings, some of which have been previously identified as 'Regional Open Space' in the Peel Strategic Plan, is positive recognition that they are strategically essential to the ecological success of the Peel Regional Park.

However, BirdLife (WA) believes there are two prominent omissions. One, the western foreshore and buffer zone has already been covered on page 6 of this submission.

The second, and by far the most important relates to Point Grey, located at the confluence of the Peel Estuary and the Harvey Estuary, on the eastern foreshore. We are very aware that the site is privately owned and that land based subdivisions have been approved, as has the establishment of a marina and a 2.5 km long channel across the estuary. There is a possibility that the company that owns the land may wish to sell. BirdLife believes that what happens at this location is so vital to the health of the estuary and to the species it supports. There are undeniable indicators that proposed activities would be environmentally counter-productive and undermine the efforts being implemented, through the Green Growth Plan, elsewhere in the system.

For example, the proponents preferred method of disposal of material from the maintenance dredging is to pump it back into the estuary, dispersing it well south of their proposed marina. They claim the drift is in a southerly direction. This will put it in line with the proposed protective extension of Kooljerrenup Reserve into the intertidal mud flats. If it also drifts to the north, as aerial shots of the patterns of sandbars suggest it will, it will disperse over the feeding grounds of Roberts Bay and Austin Bay. This is just one example of as to how this development can counteract the conservation efforts of the PPGGP.

We are so concerned about the potential impact of this development on the goals of the PPGGP, that we have attached additional comments as to the extent of its inappropriateness and its potential to undermine efforts being implemented elsewhere. (Attachment1)

We urge the Department of Premier and Cabinet to read the attachment, to reconsider this area as an acquisition priority and to approach the proponents before on site developments commence.

Financing of Initiatives and Long-Term Management.

Within the response time available, BirdLife (WA), does not have the resources to comment on the adequacy of the funding options proposed. There is however one area about which we have particular concern.

One of the objectives of the Green Growth Plan is to "improve habitat quality through revegetation, rehabilitation, control of threats such as such as weeds, disease, feral animals, uncontrolled access and restoring habitat connectivity". These initiatives are to be in partnership with local government and community groups.

In our initial submission to the strategic assessment process we went to considerable lengths to describe and to provide visual evidence of serious abuse and degradation of the existing reserves and wetlands in the Peel Region. It was so serious that we believed that the Reserves were at the cusp of being unable to protect the biodiversity for which they were established. Some locations had already crossed the line. State and Local Government bodies were familiar with the problem but simply did not have the resources to police and reverse the deterioration. That has been occurring within the parameters of current populations and existing reserves (including wetlands), parks and public open spaces.

With the establishment of the Regional Park, and increasing reserve lands, together with the projected population growth and improved transport links to the area, it would be irresponsible not to *thoroughly assess* the level of ranger resourcing requirements including an effective management structure, right from the start. This is a classic case of "all for the sake of a horseshoe nail". Our real fear is that the standard approach will be adopted whereby platitudes provide moral support for local or state government agencies to find ways of resourcing within existing budgets or, at best, are provided with an insincere sprinkling of resource glitter.

This has to be a one-off opportunity to recognise that the ultimate success of some very positive initiatives will be determined by the effectiveness of the resources allocated to manage and police the reserves. This cannot be simply one or two full time positions added to several local governments' outdoor staff budgets. That would not even be sufficient to reverse the existing deterioration, within current population numbers.

This group of people will be both the engine room and the mechanics upon which the success of all other efforts will be dependent. They need to be informed, dedicated and well supervised.

BirdLife (WA) believes that the resourcing of this group of staff will be a barometer of government's sincerity to deliver on many of its environmental objectives. In order to ensure that the funding retains its value, it is important that majority of funding, particularly for staff salaries and on-costs, is loaded into the bottom-line of the recipients' operating recurrent budgets and not simply one-off top ups.

BirdLife WA Submission Attachment 1- Point Grey and the Perth Peel Green Growth Plan.

On examining the areas identified for inclusion in the Peel Regional Park, it becomes even more obvious that the Point Grey Peninsular, if urbanised, will dramatically dissect and destroy the continuity of the Regional Park's conservation habitats on the eastern side of the estuary.

It is not only the land based corridor of reserves and parks that it dissects, but equally importantly it disrupts the estuarine 'corridor' of inter-dependent wading, feeding and roosting habitats for migratory and local shorebirds.

To the north-east of Point Grey the Regional Park will absorb the combined Nature Reserves, and Peel-Regional Scheme parks (including estuarine areas) of Austin Bay, Point Birch and Roberts Bay.

To the south of Point Grey the Regional Park will similarly include the Nature Reserves and Peel-Regional Scheme land that stretch, mostly unbroken, all the way down to the large Kooljerrenup Nature Reserve at the tip of the Harvey Estuary. Although there is a minor break created by some larger acreage/hobby farms at Birchmont, the Lake McLarty Reserve to its east provides some 'by-pass' continuity of bush and wetland habitat.

Whereas Point Grey is not pristine bush, never-the-less it is well vegetated farming land that, in its current state, provides only minor disruption to species movement whilst simultaneously providing feeding, roosting, nesting and protective habitat for many bush species.

To urbanise it with over 3,080 properties, a marina and commercial centre, is unquestionably incompatible with the ecology of surrounding areas and, further, it will have an ongoing impact on the biodiversity of the Regional Park and the Ramsar estuarine system surrounding it.

To establish an urban centre at this environmentally strategic location runs completely counter to one of the major goals of the Green Growth's Conservation Plan of "restoring and improving habitat connectivity across the landscape". It effectively does the opposite.

In our opinion it was a flawed decision to exclude the reconsideration of previous zoning approvals in the Brief given to the Planners tasked with developing the Perth and Peel Green Growth Plan. There needed to be a clause for outstanding exceptions. Obviously the long standing and ageing Western Australian Corridor Plan will have made some mistakes, particularly at the tail end of its relevance. The cumulative impact of its outcomes can now be assessed in the context of changing values and new imperatives. New information and community priorities will expose some far reaching flaws that should not have to be carried forward into a new planning era, particularly if they run completely counter to some of the main objectives of the Green Growth Plan.

We believe that Point Grey is one such stand-out exception and that, under its current zoning, it is totally incompatible with everything that the Regional Park represents.

It is not only incompatible in concept, but also in practice. It is so large and so strategically located that it is certain to impact on the neighbouring Regional Park, potentially negating much of the benefits underpinning the establishment of the Park.

If this strategic peninsular could be part of the Regional Park it would be equivalent to the Kings Park of the Peel-Harvey region, offering an ideal location as a passive recreation hub, providing tourists and locals with some potentially brilliant bird walking tracks (linking to Lake Meelup and Lake McLarty) and a proposed aboriginal heritage trail.

It represents an ideal location for picnicking, canoeing, fishing and other passive recreational activities. Carefully managed, as a passive recreation area, it would be environmentally compatible with the Regional Park, thus meeting a centrepiece tenet of the Perth and Peel Green Plan as quoted below.

1.2. Access to the Estuary Strategy. “

“partnerships with the community and other stakeholders to implement multi-use recreational nodes and a network of trails, primarily for walking, cycling and canoeing which link recreation sites and other destinations around the Peel Harvey estuary and associated waterways. The strategy will deliver upgrades to recreation sites such as picnic areas and canoe and boat launching areas to ensure that recreation occurs in a controlled and planned manner, and utilising appropriate areas thereby taking pressure off sensitive conservation sites and values”. There could be no better location in the whole of the Region to provide such options.

As it stands now, it is a wasteful, short sighted plan, totally lacking in vision to develop this area into 3,080 urban lots with its road networks and street lighting, permanently populated by over 7,000 residents, 1,300 dogs and 1,000 cats. It represents a missed opportunity and a monumental planning travesty.

Citations.

Unanticipated Benefits for Migratory Shorebirds through Improved Environmental Management Practices at Ephemeral Wetlands and Compost Facility, Nambeelup W.A., September 2014 (unpublished and updated February 2015). Author Ken Monson. This paper was submitted at a briefing with the Office of Premier and Cabinet ,October 2014.

Scates, L. 14/08/2014. Swan and Canning Rivers: auditor-general’s report finds declining health of Perth waterways. www.abc.net.au/news