

## Introduced Corella Management Strategy



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## Introduction

Introduced corellas are becoming an increasing problem on the lower Swan Coastal Plain, including the Bunbury area, through nuisance and impacts on infrastructure.

In view of this, the Little Corella (*Cacatua sanguinea sanguinea*), has been recently declared as a Category Three Declared Pest in Bunbury and the surrounding shires under the *WA Biosecurity and Agriculture Management Act 2007* (BAM Act). This declaration requires land holders to undertake measures to reduce the impact of the pest and reduce its distribution.

This strategy has been prepared in order to document the City's current approach toward introduced corella management and to guide future efforts in ensuring compliance with the BAM Act. It will also serve as a communications tool for key stakeholders and the community in relation to the City's Introduced Corella Management Program.

## Background

The corellas in question are not native to the south west of Western Australia, including the Bunbury Region. It is understood that these birds originated through escape or deliberate release from aviaries and the population has expanded through subsequent breeding in the wild. A small flock of introduced corellas was first observed in Bunbury in the mid 1990's. Favourable conditions including abundant food (e.g. pasture, irrigated turf) and water has seen this flock increase in size to approximately 1,000 birds in 2018. The population is currently causing significant impacts on the community including disruption of sleep due to noise at roosting sites, damage to infrastructure and trees due to their chewing behaviours and fouling. Infrastructure damage costs to the City as an organisation are estimated to be in excess of \$20,000 annually. Without management intervention it is expected that the local introduced corella population and its associated impacts will increase, noting that between 1998 and 2004 there was an almost three fold increase in introduced corellas in the Perth Metropolitan Area from approximately 960 to 3,000 birds<sup>1</sup>.

The community of Bunbury first appealed to the City for assistance with the problem in 2010 due to ongoing sleep disruption at a roost site at Horseshoe Lake, East Bunbury. Since this time, the City has undertaken a range of activities in response, including:

- participation in a state government-led control program on City lands
- development and implementation of a City of Bunbury control program, which has controlled 229 birds to date (ongoing)
- participation in the Western Australian Local Government Association-led local government corella reference group (ongoing)
- initiation of a south west local government collaborative control initiative (ongoing).

Despite the considerable efforts undertaken by the City and other key stakeholders to date, eradication of the introduced corellas appears unlikely in the short to medium term due, inter alia, to the size and distribution of the introduced corella population in the south west. As such, management of the birds is likely to be an ongoing issue for foreseeable future.

The City will continue to refine and improve its management of the introduced corellas into the future in order to minimise their impact on the local community. However, it must be recognised that the introduced corellas along with many other pest species pose a significant problem, one that

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<sup>1</sup> Department of Environment and Conservation (2009) Pest notes, Preventing and controlling damage by pest animals in Western Australia, Corellas and other flocking cockatoos

extends beyond local government boundaries, resource availability and statutory responsibilities. As such, introduced corella management requires a shared response across all stakeholders including government, the private sector and community, where appropriate.

Further detailed background information on the local corella issue is provided in the City's Introduced Corella Issues Paper (2014).

## Management Constraints

Through its experiences to date in undertaking introduced corella management, the City has become aware of several key constraints that have the potential to pose a significant impediment to effective corella management. These constraints include:

- current lack of experienced and equipped introduced corella control contractors
- limited availability of secure and unimpeded control sites
- lack of diversity of control methods
- limited participation by and coordination across key stakeholders
- limited resources in light of the magnitude of the problem.

The City will endeavour to address these constraints where possible in order to improve its management outcomes and efficiency; however, it must be recognised that certain aspects are outside of the City's jurisdiction and resources to address and as such, these constraints may continue to pose a challenge into the future.

## Management Aim

The City of Bunbury's management aim toward the introduced corella issue is:

***To minimise the adverse impacts caused by introduced corellas within the City of Bunbury.***

## Strategies

In seeking to achieve the management aim, the City will undertake the following strategies:

***S1. Control*** – *The City of Bunbury will undertake the trapping and humane euthanasia of introduced corellas.*

It is considered necessary to reduce the number of the introduced corellas in Bunbury in view of the ongoing growth of the local population and its associated impacts. Trapping and euthanasia will be undertaken by contractors and/or staff with appropriate training and experience, in accordance with all legislative requirements including the *WA Animal Welfare Act 2002* and Department of Biodiversity, Conservation and Attraction guidelines. Trapping and euthanasia will occur at secure sites (i.e. those where public access is restricted) where control activities are unimpeded, in order to maximise control outcomes and ensure contractor, staff and public safety. Monitoring of the local introduced corella population is an inherent part of this strategy as it is required in order to ensure the optimum control through the siting of control sites and timing of control activities.

***S2. Dispersal*** – *The City of Bunbury will undertake humane, non-lethal dispersal of the introduced corellas in order to protect City infrastructure and assets from damage.*

This is an important strategy in the short to medium term in seeking to achieve the management aim of minimising local corella impacts, as the culling efforts proposed under Strategy S1. Control will likely take time to achieve a sufficient reduction in the local corella population such that its associated adverse impacts are reduced.

There are two potential approaches towards introduced corella dispersal:

- reactive dispersal – dispersal that occurs on an as needs basis in order to provide immediate, although likely temporary, relief from corella impacts
- directed dispersal – dispersal that occurs in a coordinated manner in order to relocate the corellas to a desired area where their impacts can be tolerated and/or control activities undertaken.

Reactive dispersal approaches are considered appropriate in seeking to protect critical City assets (i.e. infrastructure) from corella impacts given the significant damage and expenses that the City has incurred in recent years (approx. \$20,000 per annum). The City will develop this capability through the receipt of required licences and approvals, training of staff and/or appointment of contractors and purchase of required equipment. Where appropriate, efforts will also be undertaken in order to address any risks to the community associated with reactive dispersal (e.g. noise nuisance) and to keep community members abreast of the City's actions. Given that dispersal approaches have the potential to be highly resource and labour intensive, the City will develop an internal guideline to as to where and when dispersal techniques will be employed, potentially including daily quotas on the

number of scaring events and/or pyrotechnic devices used. This is considered important in order to avoid the untimely exhaustion of allocated resources and/or cost blow outs.

**Please Note:**

Reactive dispersal to protect private assets (N.B. includes public parks without critical infrastructure) will not be undertaken by the City because it is likely to be resource intensive (i.e. due to the creation community expectations/setting of precedent) and/or is beyond the City’s statutory responsibilities and may carry additional and unacceptable operational risks (e.g. the risk of damage to private property through the use of explosive or mechanical scaring devices).

Directed dispersal is likely to be highly resource intensive (e.g. requiring the deployment of dispersal techniques sequentially across multiple sites) and require collaboration with neighbouring landholders (e.g. local governments) in order to be effective. As such, it is proposed that the City develops and undertakes a trial of this approach in order to investigate its merits prior to committing to it in an ongoing manner.

A number of dispersal techniques have been identified as potentially viable within Bunbury; however, each technique carries unique requirements and risks and as such may not be suitable in all locations. City assets that regularly experience corella problems and the dispersal techniques that may be suited to each are outlined in Table 1 below:

Table 1. City assets and appropriate bird scaring techniques.

Location	Appropriate Bird Scaring Techniques
<b>Sensitive Sites</b> (e.g. CBD and Bunbury Wildlife Park)	<ul style="list-style-type: none"> <li>• Eagle kites</li> <li>• Bird Expeller Pro (both ground and drone-mounted versions)</li> <li>• Aerial displays of birds of prey to scare corellas (Bunbury Wildlife Park)</li> </ul>
<b>Less Sensitive Sites</b> (e.g. Hay Park athletics track)	<ul style="list-style-type: none"> <li>• Eagle kites</li> <li>• Bird Expeller Pro (both ground and drone-mounted versions)</li> <li>• LRAD100 (long range acoustic bird scaring device)</li> <li>• Pyrotechnic devices</li> </ul>

The use of these techniques will be subject to compliance with relevant legislation and may require supporting documentation such as noise, communications and risk management plans. The City will progressively trial these techniques and incorporate them into its ongoing management program where deemed appropriate.

**S3. Community education** – *The City of Bunbury will undertake measures to inform the community on how it can assist in reducing the impacts of introduced corellas.*

This strategy is considered important in contributing towards the achievement of the management aim because the activities of community members can have a significant bearing on the viability and behaviour of the local corella population. Community education is also important in keeping community members abreast of the City’s management initiatives and in turn in building community acceptance and support for these.

Educational messages may include, inter alia, responsible wild bird feeding practices to reduce the attraction of introduced corellas, responsible bird keeping to prevent future release of caged birds

into the wild and the personal use of bird dispersal devices such as eagle kites, clappers and bird netting to mitigate impact of the birds on personal property. These messages will be delivered via a range of communications mediums including the preparation of fact sheets, reports, updates on the City's website and Facebook page, newspaper articles and public information sessions, as deemed appropriate.

***54. Advocacy*** – *The City of Bunbury will actively advocate for responsible management of introduced corellas by all relevant stakeholders, including all tiers of government, the private sector and community.*

The problem posed by introduced corellas extends beyond individual local government boundaries, resource availability and statutory responsibilities. Arguably, the higher tiers of government, private sector and community also have an important role to play in contributing to introduced corella management in their roles as regulatory authorities, research and development leaders, land managers, domestic corella keepers and wild bird feeders, amongst others. In light of these considerations, advocacy for responsible introduced corella management by all parties is considered to be an important strategy for the City to employ in seeking to minimise the impacts caused by the birds in Bunbury.

The City is of the view that the higher tiers of government in particular have an important role to play with this issue, for example, through:

- research and development of additional and alternative control and dispersal techniques
- regional oversight and coordination of management responses to the issue
- funding to assist with delivery of regional corella control initiatives that span multiple jurisdictions and land tenure
- regulation of bird keeping practices to minimise future releases of caged pest birds
- establishment and encouragement of best practice introduced corella management approaches
- provision of centralised record keeping, data collection and information dissemination.

***55. Partnerships*** – *The City of Bunbury will encourage and support the formation of partnership approaches with other stakeholders in order to maximise management outcomes.*

Partnership approaches towards corella management may be beneficial in avoiding duplication of effort, encouraging knowledge sharing and mutual support, maximising outcomes from limited resources and ensuring consistency of management approaches across jurisdictions. These factors combined may result in improved management efficiency and outcomes and as such form an important strategy under this document.

The City currently participates in two collaborative initiatives in relation to the corella issue, including the Western Australian Local Government Association-led local government corella reference group and south west local government collaborative control initiative. These initiatives are considered to be highly important in providing for efficient corella management and in advocating for an appropriate response to the issue by all stakeholders. As such, the City will continue to participate in and support these initiatives where possible.

The key stakeholders in relation to this issue include:

- surrounding local governments

- Western Australian Local Government Association
- Department of Biodiversity, Conservation and Attractions
- Department of Primary Industries and Regional Development
- Southern Ports Authority
- private organisations
- community members.

***S6. Addressing Management Constraints – The City of Bunbury will pursue the resolution of management constraints in order to improve outcomes and efficiency.***

As discussed previously, the City has identified a number of key management constraints through its experiences to date. Several of these constraints have been addressed, at least in part, by the abovementioned strategies, for example:

- the availability of secure and unimpeded control sites is addressed under ‘S1. Control’
- the lack of diversity of control methods is addressed under ‘S4. Advocacy’
- the limited participation by and coordination across key stakeholders is addressed under ‘S4. Advocacy’
- the limited resources in light of the magnitude of the problem is addressed under ‘S4. Advocacy’ and ‘S5. Partnerships’.

The City will explore and undertake steps to address other aspects of the management constraints, that is, where not addressed through the abovementioned strategies, as its jurisdiction and resources allow in order to improve its management outcomes and efficiency.

In addition, the City is aware of several other potential management strategies towards the introduced corella issue, as previously employed by other stakeholders. The City may or may not elect to introduce these into its management program in the future following further research and development. The potential strategies include:

- **Habitat modification** – Recent research indicates that modification of habitat to make it less appealing to introduced corellas (i.e. by breaking up sightlines through revegetation) is as an effective long term approach to reducing their impacts<sup>2</sup>
- **Regulation of wild bird feeding** – The feeding of introduced corellas by members of the public may increase the viability of the local population, leading to accelerated increases in numbers and possible longer residence time of the birds. Further, feeding may also impact culling programs by drawing the birds away from control sites. There is evidence of introduced corella feeding in Bunbury. As such, the City may choose to pursue the regulation of this activity in the future as part of its management approach, for example, through its local laws.

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<sup>2</sup> Scanlon, A., Roetman, P., Stead, M., Gray, S., Lethbridge, M. (2017) Little Corellas: social and ecological research for management in South Australia. Discovery Circle Initiative, University of South Australia, Adelaide.



## Actions

The City of Bunbury has devised a broad suite of actions in order to support the implementation of the abovementioned strategies and in addressing the identified management constraints. These are outlined in the Action Plan further herein.

The City has adopted a five year planning horizon for the Action Plan in view of the evolving nature of the introduced corella issue and management response by stakeholders. However, as discussed previously, it is anticipated that the introduced corellas will require management into the foreseeable future (i.e. beyond the five year planning horizon).

Strategy 'S1. Control' remains the City's principle approach toward the management of introduced corellas given that this is the sole approach with the potential to generate a lasting reduction in both corella impacts and associated management expenditure over time. **In pursuit of this strategy, the City adopts the aspirational control target of a minimum of 200 birds per annum.** The target is considered feasible provided that the following conditions are met:

- The establishment two control sites (minimum) at which control activities are unimpeded
- Weekly monitoring and maintenance of the control sites in order to optimise the scheduling of control activities with introduced corella feeding patterns and ensure that the equipment is in working order
- An available contractor and/or staff to undertake control activities in accordance with introduced corella attendance at control sites.

## Strategy Review and Continual Improvement

The City is committed to refining and improving its introduced corella management program in order to maximise management outcomes and ensure the efficient use of available resources. As such, the City will adopt a continual improvement approach, which involves the capture and implementation of lessons learnt through its own experiences along with ongoing research into the experiences of other organisations undertaking pest bird management.

In light of this, it is considered important that this document is subject to ongoing review and improvement, as new information becomes available, rather than being limited to fixed periodic review cycles (N.B. please see the 'Production Details' section of the document for information on the currency and scope of this edition).

## Action Plan

The City of Bunbury proposes to undertake the following actions in pursuit of the aforementioned strategies:

Strategy	Action	Timeframe					Comments
		2017/18	2018/19	2019/20	2020/21	2021/22	
<b>S1. Control</b>  (N.B. elements also contribute towards S6. Addressing Management Constraints).	A1. Establish and maintain two sites at which control activities can occur unimpeded	X	X	X	X	X	Ongoing Task. Sites may be located on City or non-City land depending on availability of suitable land.
	A2. Purchase feeders, grain and monitoring equipment for control sites	X	X	X	X	X	Upfront costs associated with purchase of feeders and monitoring equipment. Grain costs are ongoing.
	A3. Commence 'baiting' and management of trapping site/s	X	X	X	X	X	Ongoing task undertaken by City staff
	A4a. Appoint contractor to undertake control activities (if possible)	?	?	?	?	?	There is a current shortage of trained and equipped corella contractors. As such, this may not be possible in the short term (i.e. until such time as the state government has trained more contractors)
	A4b. Train and equip staff to undertake control activities in accordance with Department of Biodiversity, Conservation and Attractions guidelines, if required (i.e. in the absence of available contractors)	?	?	?	?	?	This action assumes that Action A4a is unviable.
	A5. Obtain 'licence to take' from Department of Biodiversity, Conservation and Attractions in order to undertake control activities	X	X	X	X	X	Licence needs to be obtained annually
	A6. Undertake control activities when sufficient introduced corellas are found to be attending the trapping site/s	X	X	X	X	X	Ongoing task. Experienced corella contractors recommend that control activities occur only when a minimum of 50 birds are attending the site in order to optimise control outcomes and risks e.g. of birds becoming 'trap shy'
	A7. Undertake monitoring of introduced corella population activity in order to inform management	X	X	X	X	X	Ongoing task to be undertaken opportunistically by City staff
<b>S2. Dispersal</b>	<b><i>Reactive dispersal to protect City of Bunbury assets from damage</i></b>						
	A8. Development of internal guideline to guide application of dispersal techniques (i.e. locations, specific circumstances, quotas on scaring events and devices deployed etc.).	X					Dispersal has the potential to be highly resource and labour intensive. Guideline will assist in avoiding untimely exhaustion of allocated resources and/or cost blow out.  Guideline may require periodic review.
	A9. Purchase and deploy eagle kites	X	X	X	X	X	To be undertaken on an ongoing basis if deemed successful in first year (2017/18)
	A10. Purchase, prepare noise and communications management plan and deploy Bird Expeller Pro	X	X	X	X	X	To be undertaken on an ongoing basis if deemed successful in first year (2017/18)
	A11. Investigate and deploy raptor aerial displays at wildlife park, if possible and appropriate	X	X	X	X	X	To be undertaken on an ongoing basis if deemed successful in first year (2017/18)
	A12. Obtain corporate firearms licence for pyrotechnics	X	X	X	X	X	Corporate firearms licence must be reviewed annually
	A13. Undertake training and obtain Civil Aviation Safety Authority licence/s for operators of drone		X	X	X	X	CASA licence must be renewed annually
	A14. Purchase, prepare noise and communications management plan and deploy drone mounted Bird Expeller Pro		X	X	X	X	Deployment to be undertaken on an ongoing basis if deemed successful in first year (2018/19).
	A15. Train staff in use of pyrotechnic equipment		X				Additional training may be required in future years due to staff turnover
	A16. Purchase, prepare noise and communications management plan and deploy pyrotechnic equipment, as deemed appropriate		X	X	X	X	Deployment to be undertaken on an ongoing basis if deemed successful in first year (2018/19).
	A17. Purchase, prepare noise and communications management plan, train staff in the use of and deploy LRAD100 (long range acoustic bird scaring device).			X	X	X	Deployment to be undertaken on an ongoing basis if deemed successful in first year (2019/20).

Strategy	Action	Timeframe					Comments
		2017/18	2018/19	2019/20	2020/21	2021/22	
	<b><i>Trial of directed dispersal techniques</i></b>						
	A18. Prepare project plan for directed dispersal trial in light of research and experiences with reactive dispersal	X	X				
	A19. Seek City of Bunbury Executive Leadership Team endorsement for implementation of trial		X				
	A20. Undertake liaison with stakeholders in order to obtain buy-in		X				Potential participants in trial include surrounding local governments, Southern Ports Authority, Department of Biodiversity, Conservation and Attractions and private landholders (e.g. rural landholdings)
	A22. Seek funding for trial (e.g. via grant)			X			State NRM Office and Leschenault Biosecurity Group may offer potential funding sources
	A23. Implement trial, which would likely involve the identification of sites where introduced corellas can be dispersed to (i.e. where their impacts can be accepted), liaison with stakeholders and planning for, and implementation of, the dispersal activities and monitoring of the outcomes			X	X		
	A24. Report back to Executive leadership Team regarding trial outcomes and recommended next steps				X	X	
<b>S3. Community Education</b>	A25. Put strategy and issues paper on the website	X					
	A26. Undertake community information session on the City's corella management strategy	X	X				
	A27. Prepare quarterly internet and facebook updates on program	X	X	X	X	X	Ongoing task
	A28. Prepare media releases in order to inform the community about important new information or directions in relation to the City's corella management program	X	X	X	X	X	As needed
	A29. Respond to community and media enquiries as needed	X	X	X	X	X	As needed
	A30. Prepare factsheet on how community can assist/self-manage issue (e.g. not feed the birds)		X				
<b>S4. Advocacy</b>  (N.B. elements also contribute towards S6. Addressing Management Constraints).	A31. Advocate with the Western Australian Local Government Association, Department of Biodiversity, Conservation and Attractions and surrounding local governments for the training of additional corella control contractors and/or establishment of a regional staff member in order to ensure sufficient local capability in this regard	X	X	X	X	X	As needed
	A32. Advocate with the Western Australian Local Government Association, Department of Biodiversity, Conservation and Attractions and other key stakeholders as deemed appropriate for the organisation and delivery of a national forum on corella management, given the wide ranging nature of the problem	X	X	X	X	X	As needed
	A33. Advocate with the Western Australian Local Government Association and state government for increased state government action in relation to: <ul style="list-style-type: none"> <li>research and development of additional and alternative control and dispersal techniques</li> <li>regional oversight and coordination of corella management responses</li> <li>funding to assist with delivery of regional corella control initiatives that span multiple jurisdictions and land tenure</li> <li>regulation of bird keeping practices to minimise future releases of caged pest birds</li> <li>establishment and encouragement of best practice introduced corella management approaches</li> <li>provision of centralised record keeping, data collection and information dissemination.</li> </ul>	X	X	X	X	X	As needed
	A34. Participate in regular reviews of pest declarations under the BAM Act to provide stricter regulation of pest bird keeping.	X	X	X	X	X	As needed
<b>S5. Partnerships</b>  (N.B. elements also contribute towards S6. Addressing Management Constraints).	A35. Continue to participate in and provide support to the Western Australian Local Government Association-led local government corella reference group and south west local government collaborative control initiative	X	X	X	X	X	Ongoing task
	A36. Investigate the potential for and support the creation of new partnerships with other key stakeholders in order to assist with the management of introduced corellas, for example, potential partnerships between government and the private sector (e.g. grain export industry) and/or partnerships between government and the community (e.g. in capturing community reports on corella movement patterns).	X	X	X	X	X	As opportunity arises