

Gnangara Sustainability Strategy

Ecological Linkages Community Workshop Series

Analysis Report

for
Department of Environment and Conservation and Swan Catchment Council

August 2008

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1. EXECUTIVE SUMMARY

As part of the Ecological Linkages Project, which is contributing to the development of the Gnangara Sustainability Strategy, a series of community workshops were held during June 2008 with the purpose of informing the community of the Project and associated research.

In addition, the Department of Environment and Conservation were interested in obtaining community input into the location of regional ecological linkages and the threats to their long term viability. Participants were also asked to contribute their ideas as to what needs to be done to protect and improve these linkages.

The responses obtained during the workshop sessions indicated that those attending appeared to have a clear understanding of what constitutes a priority regional ecological linkage and the importance of associated wetlands, waterways and bushland.

Many participants felt that the security and long term protection of these ecological linkages were threatened by clearing associated with urbanisation and private land use. Additional threats associated with human activities and proximity to urban areas were also of concern to participants (i.e. feral species, fire, fragmentation, roads and railways).

To address these threats, the majority of participants felt that the community needed to be aware of the benefits (both direct and indirect) provided by these linkages and associated bushland. Revegetation and rehabilitation using endemic species and greater use of understorey species were also a priority for participants, seen as important in improving the health of existing linkages and bushland.

Adequate policy and regulation to protect linkages was considered important in ensuring the long-term security and protection of these assets from clearing associated with urbanisation and private land use.

The information obtained from the community workshops will be considered and incorporated into the Ecological Linkages Project. Additional community consultation may be required as part of this project, which is likely to be restricted to community stakeholders.

2. WORKSHOP METHODOLOGY

An invitation to attend the workshops was circulated to interested community members through established email networks. Three workshops were held in the northern suburbs, located at;

- Chittering (17th June 2008)
- Midland (19th June 2008)
- Wanneroo (24th June 2008)

The format of each workshop was identical. A copy of the agenda may be found in Appendix 1. At the commencement of each workshop, two presentations were made to provide participants with background information to assist them in providing informed decisions as part of the workshop session.

The first presentation included an overview of the Gnangara Sustainability Strategy and the Ecological Linkages Project. This included background information on the purpose and extent of the proposed Gnangara Park and general information on regional ecological linkages.

Following this, Dr Rob Davis from the University of Western Australia presented his findings from recent research on ecological linkage requirements for birds and guidelines for ecological linkages.

Following the presentations, participants were asked to contribute information in a workshop session. The facilitated workshop session required attendees to prioritise regional ecological linkages in their area. This was initially performed on individual maps which could be cross referenced with aerial photography. Then participants confirmed their top three linkages on one map placed at the front of the room. The priority north-south and east-west linkages were identified by the facilitator.

Once the priority regional ecological linkages for the area were identified, participants were asked to respond to two focus questions;

- What are the issues surrounding these ecological linkages?; and
- What needs to be done to improve or maintain these ecological linkages?

Participants considered their responses individually and placed them on sticky notes which they then placed under each question at the front of the room. These responses were discussed by the facilitator and are presented in Section 3 of this report.

Following the workshop session, participants were informed that the information they provided would be analysed and used to incorporate community opinions into the Ecological Linkages Project. It was mentioned that an additional round of stakeholder consultation may be undertaken as part of this project.

3. WORKSHOP RESULTS

The following results provide a description of the priority regional ecological linkages identified by the community at each workshop and a summary of the responses to the focus questions, which have been briefly interpreted in Section 4. There were 49 people who attended the workshops. A list of participants may be found in Appendix 2. A list of participant's comments and suggestions for each workshop may be found in Appendix 3.

3.1 PRIORITY REGIONAL ECOLOGICAL LINKAGES

The following linkages were identified as being the most important to workshop participants;

Chittering

East-West

1. Gingin Brook
2. Corridor connecting remnant vegetation north of Neaves Road with Darling Scarp vegetation

North-South

1. Corridor following the Great Northern Highway and Brand Highway to Gingin Brook
2. Corridor following the Great Northern Highway and Brand Highway and then branching off in a North-East direction through remnant vegetation with >60% cover
3. Corridor connecting Bindoon down to the Darling Scarp

Midland

East-West

1. Corridor connecting Swan River to Lake Jandabup (through Whiteman Park and the western edge of the pine plantation)
2. Corridor connecting Walyunga National Park with Lake Jandabup (through the pine plantation along Warbrook Road)

North-South

1. Corridor connecting Swan River to Neaves Road

Wanneroo

East-West

1. Corridor connecting Lake Jandabup with Burns Beach (crossing Lake Joondalup)
2. Corridor through Yanchep National Park (connecting Wanneroo Road with coastline)

North-South

1. Corridor following Yellagonga National Park to Wilbinga
2. Corridor following the coastline

3.2 ISSUES IMPACTING ECOLOGICAL LINKAGES

Table 1 outlines the issues that participants believe adversely impact on regional ecological linkages. There were 99 issues listed by participants from all three workshops, with most participants choosing to list more than one issue.

Urbanisation was the most commonly listed issue, listed 21 times. Some participants chose to elaborate on this issue, indicating that developers were seeking to develop environmentally constrained land in the absence of easily developable land and that developers and the Department of Planning and Infrastructure did not appreciate the indirect services provided by biodiversity (i.e. air quality, water quality and recreation).

Feral species (including flora and fauna), was the second highest ranked issue, listed nine times. This was followed by private land ownership, which was mentioned at the Chittering and Wanneroo workshops only. Participants felt that private land ownership was a significant issue (related to land development) and suggested that private ownership compromises the long term viability of many of these corridors.

Table 1. Issues participants listed as impacting on regional ecological linkages

Issue	Chittering (n=34)	Midland (n=35)	Wanneroo (n=30)	Total (n=99)
Urbanisation/land development	10	3	8	21
Feral species	1	5	3	9
Private land ownership	4		4	8
Long term management and viability	4	2	1	7
Fire	3	3		6
Fragmentation	1	1	4	6
Roads/railway	2	3		5
Recreation		5		5
Water quality and quantity	1	1	3	5
Vegetation condition	4	1		5
Lack of community understanding			3	3
Inadequate legislative protection	1		2	3
Lack of long term funding	1	1	1	3
Rubbish dumping		2		2
Dieback and disease		2		2
Width of linkages		2		2
Lack of indigenous involvement in planning		2		2
Land degradation (i.e. erosion, salinity, acid sulfate soils)		2		2
Industry impacts	1			1
Number of linkages	1			1
Edge effects			1	1

3.3 SUGGESTED ACTIONS TO IMPROVE LINKAGES

Participants were asked to suggest what needs to be done to improve or maintain these ecological linkages. There were 98 suggestions provided by participants from all three workshops, with most participants listing more than one suggestion.

The most commonly made suggestion was for the responsible agencies to undertake community education and awareness, so that the broader community were aware of the direct and indirect benefits of linkages. Participants suggested involving friends of groups to care for the linkage in conjunction with youth groups, schools and other community associations.

Restoration and revegetation was ranked equally with adequate policy and legislation (with the aim of ensuring long-term protection), receiving 14 comments. In regards to restoration and revegetation, there were suggestions to improve vegetation cover to achieve a minimum of 60% cover by undertaking infill plantings, using endemic species. There were also calls for greater use of understorey species in revegetation projects. Participants were eager to see native species planted soon after the pines were harvested so the area could provide biodiversity values.

Participants felt strongly about the use of policies and legislation to ensure protection of linkages. It was suggested that government should introduced a tiered planning framework where ecological linkages and reserves were protected by Statements of Planning Policy (SPP's) down to local planning policies at local government level. A policy on tracks and trails was also suggested to ensure adverse impacts were minimised by activities in these areas.

Table 2. Actions suggested by participants to improve regional ecological linkages

Action	Chittering (n=30)	Midland (n=25)	Wanneroo (n=42)	Total (n=97)
Community education and awareness	5	4	13	22
Restoration and revegetation	4	4	6	14
Develop adequate policy and legislation to ensure long-term protection	4	6	4	14
Feral species control	4	2	3	9
Secure long-term funding		3	5	8
Improved consultation and collaboration with stakeholders	6			6
Manage access	2	3	1	6
Undertake detailed resource assessments and provide information and data to stakeholders			4	4
Water resource management			4	4
Fire management	2			2
Introduce program that secures conservation of land in private ownership (i.e. Wetland Watch, covenants)		1	1	2
Control vandals	1			1
Maintain land productivity	1			1
Ensure linkages connect nature reserves that offer long term protection	1			1
Encourage innovations to provide safe travel for fauna (i.e. underpasses)			1	1
Fauna management		1		1
Heritage listing		1		1

4. INTERPRETATION OF RESULTS

Participants appeared to have a clear understanding of what constitutes a priority regional ecological linkage, with many selecting existing linkages that traversed wetlands and waterways. Many also had a desire for linkages to connect bushland that had greater than 60% remnant vegetation cover, possibly influenced by the information presented to participants that emphasised the importance of this criteria.

A considerable number of participants were from local friends groups, so in some instances prioritisation reflected a desire to 'protect their own patch'. However, it is likely that these friends groups would have an interest in maintaining these linkages, which must be considered when determining the most appropriate linkages to retain.

Urbanisation was the highest rated issue and consequently, participants rated adequate policy and legislation as a high priority action to ensure the protection from urbanisation and land clearing.

Similarly, private land tenure was seen as a potential threat due to the unsecured nature of some linkages. However, participants were generally unsure of how to address this potential threat. Those that did provide informed recommendations, such as the use of covenants or adapting programs such as Wetland Watch, which aims to conserve wetlands and bushland through a more collaborative approach with land holders.

A lack of community understanding of ecological linkages was mentioned as an issue at the Wanneroo workshop, but interestingly it did not rate highly compared to other issues. However, community education and awareness was the highest priority action. It could be assumed that participants felt the lack of community understanding was the underlying reason for many of the other issues, such as feral species, fire, disease and rubbish dumping.

Restoration and revegetation was a high priority action, with participants commenting that existing linkages should be retained and improved to ensure they supported greater than 60% remnant vegetation cover. There was a desire to involve and inform community groups of this work, which could partially achieve the suggested action of improved stakeholder consultation and collaboration, which rated highly at the Midland workshop.

In summary, the security of these linkages was an overwhelming concern to participants. In general, participants felt that if the linkages could be secured and protected from clearing then they would be more viable and attract funding for collaborative projects for improvement and maintenance.

Appendix 1

Workshop Agenda

Ecological Linkages Project Community Workshop Series

Agenda

Purpose: The workshop aims to;

- update and inform as this is the first round of consultation with the community on the ecological linkages project
- identify landscapes with 60% vegetation in the Ellen Brook Catchment
- prioritise the key regional ecological linkages (in their local area)
- identify key actions to enable ecological linkages to be maintained or improved

Facilitator

Lucy Sands, BlueSands Environmental

4:00 – 4:15pm	Registration and light supper
4:15pm	Welcome and introduction
4:20pm	Presentations <ul style="list-style-type: none"> • Gnangara Sustainability Strategy, Gnangara Park and regional ecological linkages, Mr Paul Brown (DEC) • Ecological linkages for birds, Dr Robert Davis (University of Western Australia)
5:00pm	Workshop session Participants will be presented with maps showing key regional ecological linkages in their local area and will be asked to prioritise them. Following this, participants will be asked to consider the following focus questions: <ul style="list-style-type: none"> • What are the issues surrounding these ecological linkages (i.e. land tenure, recreational use) • What needs to be done to improve or maintain these ecological linkages?
6:00pm	Group discussion
6:25pm	Conclusion

Outcomes: The community workshops will assist in:

- developing achievable actions for the community and Government that will result in improvements to regional ecological linkages
- incorporate the information into the Gnangara Sustainability Strategy decision making process

Appendix 2 List of workshop participants

Chittering workshop participants

Azar Awang	Shire of Chittering
Keith Burgemeister	Shire of Chittering
Doreen Mackie	Shire of Chittering
Alison Nannup	South West Aboriginal Land & Sea Council
Phillipa Schmuker	South West Aboriginal Land & Sea Council
Andrew Del Marco	Ironbark Environmental
Kevin Smith	Community - Upper Swan
Judith Bell	Community - Bullsbrook NLC
Val Pate	Community - Chittering Landcare
Sandy Pate	Community - Chittering Landcare
Ann Graham	Community - Chittering Landcare
Steve Valance	Community - Chittering Landcare
Robert Hawes	Community - Chittering Landcare, EBIC, Wannamal LCDC
Karen Warner	Community - Chittering Landcare
Peta Rakela	Community - Chittering Landcare
Sue Tough	Community - Chittering Landcare
Phillip Surtees	WA Farmers Federation
Laurie Bush	WA Farmers Federation / Gingin Property Rights
Renae Thorpe	Chittering Landcare Centre
Rosanna Hindmarsh	Chittering Landcare Centre
Katerina Neve	Chittering Landcare Centre
Amy Salmon	Chittering Landcare Centre
Paul Brown	DEC
Janine Kinloch	DEC
Rob Davis	UWA
Danielle Witham	SCC

Midland workshop participants

Rod Henderson	Community
John Williams	Community
Sue Hurt	Community
John Sutherland	Community
Cheryl Anne McCann	SCC
Donald Yates	Bassendean Preservation Group
Kelly Norris	City of Swan
Frank Alban	Community
Hazel Dempster	Community
	DEC
Rob Davis	UWA
Danielle Witham	SCC

Wanneroo workshop participants

Phil Thompson	City of Wanneroo
Jacqueline Giles	City of Wanneroo
Nicola Hoey	City of Wanneroo
Marilyn Zakrevsky	Community
Ken Zakrevsky	Community
John Corbellini	City of Wanneroo
Peter Bombak	Yellagonga Community Advisory Committee
John Boonzaier	Environmental Advisory Committee
Kathy Peek	Two Rocks
Barbara Bennett	Two Rocks
Martina Thomas	Community

Lara O'Neill	City of Wanneroo
David Goodall	Edith Cowan University
Geoffrey Curtis	Environmental Advisory Committee
Robert Susac	Environmental Advisory Committee
Rae Kolb	Community
Rhonda Hardy	City of Joondalup
Janine Kinloch	DEC
	DEC
Rob Davis	UWA
Danielle Witham	SCC

Appendix 3

Participants comments and suggestions

Chittering Workshop

Question: What are the issues surrounding these ecological linkages?

Issue	Comments
Development	<ul style="list-style-type: none"> Population growth will increase the pressure to clear land for subdivision Need to select locations of ecological linkages according to future planning for housing development Developers do not respect the environment and should be required to reserve land for linkages
Vegetation condition	<ul style="list-style-type: none"> Vegetation condition and quality is uncertain along linkages Degradation of remnant vegetation reduces linkage effectiveness Dieback and disease
Fire	<ul style="list-style-type: none"> Inappropriate fire regimes
Roads/railway	<ul style="list-style-type: none"> Rail and highway access Increased traffic
Private land	<ul style="list-style-type: none"> Present private land use Conflict with private property owners over restrictions associated with linkages Rural pursuits (grazing, cropping) can be poorly managed
Industry	<ul style="list-style-type: none"> Extractive industry (basic raw materials) taking precedence
Feral animals	
Fragmentation	<ul style="list-style-type: none"> Isolating animals e.g. Kangaroos
Access to water	<ul style="list-style-type: none"> Access to water all year round

Question: What needs to be done to improve or maintain these ecological linkages?

Suggestions for improvements or maintenance	Comments
Consultation and collaboration	<ul style="list-style-type: none"> Require consultation between land care experts, scientists, shire and developers (knowledge of subdivisions, main roads, public open spaces) Aboriginal consultation with South West Aboriginal Land and Sea Council Maintain ecological linkages by working with the Caring for Country Projects (Australian Government) Define early the responsibility for maintenance
Education and awareness	<ul style="list-style-type: none"> Require better community understanding of linkages Advice, financial assistance, fencing Identify benefits to landowners, planners and ecotourists
Restoration/ revegetation	<ul style="list-style-type: none"> Identification of flora and fauna already present Maintenance of species distribution Infill plantings

Suggestions for improvements or maintenance	Comments
	<ul style="list-style-type: none"> To gain 60% cover of vegetation through ecological linkages carry out endemic seed collection (locally sourced)
Feral species control	<ul style="list-style-type: none"> Control weeds and vermin movement Define early the responsibility for weed control
Policy and Legislation	<ul style="list-style-type: none"> Requires statutory backing to ensure conservation/protection of corridors Local planning policies to integrate linkages Policy on tracks and trails
Fire management	<ul style="list-style-type: none"> Strategic burning Fire protection of surrounding farm land
Access control	<ul style="list-style-type: none"> Limited vehicle access
Control of vandals	
Maintain land productivity	
Connect nature reserves, parks with the corridors	

Midland Workshop

Question: What are the issues surrounding these ecological linkages?

Issue	Comments
Recreation (especially off road vehicles)	<ul style="list-style-type: none"> Illegal access by 4WD and trail bikes Managed recreation – trail bikes, horse riding links, tracks and trails Limit access of vehicles. Causes damage to soil crust.
Weeds	<ul style="list-style-type: none"> Arum lilly, swan plant
Fire	
Development /Urbanisation	
Roads/ Railway	<ul style="list-style-type: none"> North/south road structures isolating Whiteman Park from the hills ie. Perth to Darwin Hwy, Henley Brook Avenue, Great Northern Hwy , West Swan Road and Train Route. No viable method available to cross these.
Rubbish dumping	
Dieback	
Width of corridors	
Aboriginal involvement	<ul style="list-style-type: none"> Cultural issues, planning management Integration of aboriginal sites into corridors Integration of aboriginal cultural knowledge into corridor positioning
Feral animals	<ul style="list-style-type: none"> Urban corridor development impact from domestic pets and released exotic birds
Land degradation	<ul style="list-style-type: none"> erosion acid sulfate soils salinity
Fragmented land tenure	
Funding issues	
Long term viability	<ul style="list-style-type: none"> Access to water and remove all contaminants Contingencies for native vegetation on private property
Fauna species management	<ul style="list-style-type: none"> Cull Caversham Airbase, Black Glove Wallabies.
Water – reduction of	

Issue	Comments
groundwater levels	

Question: What needs to be done to improve or maintain these ecological linkages?

Suggestions for improvements or maintenance	Comments
Community education and involvement	<ul style="list-style-type: none"> • Education at all levels. Mass media communication • Develop 'Friends of 'groups for each link • Integrate aboriginal environmental knowledge when planning and managing ecological linkages
Restoration/revegetation	<ul style="list-style-type: none"> • Provenance species • Replant vegetation specific to corridor • Maintain buffer to max 500 meters
Policy and legislation	<ul style="list-style-type: none"> • Legislation to protect areas such as Draft Perth Hills Planning Bill • Establish workable management arrangements • Significant funding is required and longevity of funding • Management Plans to remain viable
Roads and access management	<ul style="list-style-type: none"> • Less north south roads -consolidate them and manage the issues • Closure of some access to prevent further damage • Need to fence some areas
Control feral species	<ul style="list-style-type: none"> • Control domestic animals – introduce curfews etc. • Displacement of kangaroos
Heritage listing of strategic environmental locations	<ul style="list-style-type: none"> • E.g. Bells Rapids.
Acquire key linkages on private land	

Wanneroo Workshop

Question: What are the issues surrounding these ecological linkages?

Issue	Comments
Development and planning	<ul style="list-style-type: none"> • Development of fragile land (i.e. karst – Yanchep caves). • New buildings should be positively redirected away from ecologically sensitive areas • Future land zoning under MRS • The difference between local/ regional and urban/rural linkages need to be recognised and planned for appropriately • DPI ignore DEC. Planners don't value bush and cannot see it is needed for air quality, passive recreation and biodiversity • Require new developments to landscape with local native plants • In existing suburbs try to link open areas, parks, lakes etc.
Long-term management	<ul style="list-style-type: none"> • Will they remain ecological linkages forever? • How can these linkages be sustained over a 100 year period? • Linkages may not provide for all life history requirements. • Long-term commitment to the protection of natural areas within the linkage
Private land holders	<ul style="list-style-type: none"> • Land tenure • Competing property uses • Private property development and clearing
Public perception	<ul style="list-style-type: none"> • Public perception of what linkages are/what they do • Lack of majority community interest • How do you educate the politicians, developers and general public that linkages are important?
Feral species	<ul style="list-style-type: none"> • Mobile predators • Weed invasion • Ridding the weeds and plant local indigenous species
Water quality and quantity	<ul style="list-style-type: none"> • Upper catchment contamination/interception • Water quality of wetlands • Drying climate, decreasing water
Fragmentation	<ul style="list-style-type: none"> • Safe travel for fauna between habitats • Support migration – birds, raptors, mammals, reptiles etc. • Lack of habitat • Fragmented habitat – lack of sufficient connections to other habitat
Legislation	<ul style="list-style-type: none"> • Legislation needed to ensure the priority 'bush forever/ecological linkages' cannot be usurped by agencies and developers • Legislation inadequate and not enforced
Funding	
Edge effects	

Question: What needs to be done to improve or maintain these ecological linkages?

Suggestions for improvements or maintenance	Comments
Community education and involvement	<ul style="list-style-type: none"> • Community education and awareness of the benefits and values of linkages • Continue long-term funding for local nature spot program (not just one year) • Development of a specific on-ground urban linkage program to reconnect people to the environment • Involve youth, schools, church, associations etc. • Immigrants don't understand the native vegetation • A network of people to keep watch on having healthy linkages • Instil a spirit of custodianship

Suggestions for improvements or maintenance	Comments
	<ul style="list-style-type: none"> • Get landholders involved in maintaining ecological linkages • Get councillors to act responsibly • Provisions for consultation with communities must be addressed and acted on and not just noted and never referred to again • Publicise goals achieved
Restoration/revegetation	<ul style="list-style-type: none"> • Increase funding to revegetation programs • Restore understorey to remnant vegetation areas • Increase vegetation in major roads • Establish native bush throughout pine plantations as quickly as possible after harvest
Funding for ongoing maintenance	<ul style="list-style-type: none"> • Sufficient funding for ongoing maintenance and protection e.g. fencing to keep out vehicles • Consistent approach to maintenance by government agencies
Feral species control	<ul style="list-style-type: none"> • Feral animal control • Pet curfews • Weed control strategies
Policy and legislation	<ul style="list-style-type: none"> • Adequate legislative protection • Have areas gazetted for protection • Development of a tiered planning framework supported by all levels of government so that it can be implemented effectively
Information and assessment	<ul style="list-style-type: none"> • Detailed map – local government areas, private, state remnant vegetation areas • Biological inventory • Geotechnical and speleological assessments • Monitoring process required to publicise goals and percentages achieved by
Water resource management	<ul style="list-style-type: none"> • Regulations to improve water quality and community education • Water restrictions and innovations • Regular construction of water features – dams, ponds etc.
Innovations to improve safe travel for fauna (underpass retrofits etc.)	
Develop key guidelines for proponents	
Land covenants	
Access control	