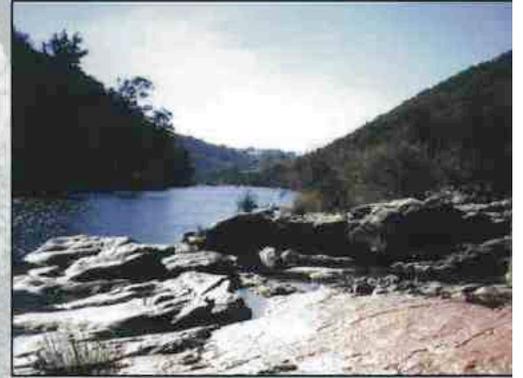


Ginninderra Catchment Group

Strategy 2000

'A vision for the future'



GINNINDERRA CATCHMENT GROUP

STRATEGY 2000

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Many people have contributed to the successful development, and now publication, of this Strategy.

The origins of the Group and the Strategy go back to the days of GiCaLa, the Ginninderra Catchment Landcarers. Since then many past and current members of the Group have worked at various stages on preparation of the Strategy. Special thanks is owed to all the committee members who have been involved with the group since its origins. In addition the group would like to thank:

- The National Heritage Trust and the ACT Government for the funding to assist with production of the Strategy and this publication.
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- the University of Canberra for supporting research by its students, and
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We could not have been successful as we have without our coordinators. Shelley Cass and Anna Brangwin worked tirelessly on development of the Strategy, as well as Jo Daly and Sandra Harding who are ensuring its successful launch and continuing implementation. Since we began new people and organisations have become involved and, in anticipation, thanks to all who will be involved in implementing our Strategy and making sure we review it and keep it up to date.

If you would like more information on the strategy, the group or its activities, please contact me or one of our coordinators Jo Daly or Sandra Harding.



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Friends of the Aranda Bushland
Umbagog Landcare Group
Ginninderra Wetlands Care Group
North Belconnen Landcare Group
Friends of Mount Painter
O'Connor Parkcare Group
Gold Creek Public School
Jarramlee Park Environment and Wetland Care Group
Ginninderra Falls Tourist Park

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INTRODUCTION

Land and water degradation issues in Australia have become more visible over the last 10 to 15 years and through improved research techniques there has been great progress made in our understanding of their causes.

These findings have highlighted just how complex and connected many of our environmental problems are, and hence created the need to develop management structures which reflect the complexity. In many areas this has led to the development of “Catchment Management Committees” and “Catchment Management Plans” that seek to address many environmental problems in a holistic way.

Ginninderra Catchment Group

As the Landcare movement in the Ginninderra Creek catchment has grown there has been an increasing awareness of the need to address the causes of land and water conservation issues on a catchment basis rather than continually dealing with specific symptoms. This led to the development of the Ginninderra Catchment Group, as an umbrella group for a number of active urban and rural groups catchment-wide.

The Catchment Group is able to represent all the groups in the catchment, support their projects and develop and undertake activities relevant to the whole of the catchment. This approach facilitates development of common goals, a strategic approach, operational efficiency and effective communication among groups, with land managers, funding bodies, local government and the wider community.

This Strategy is an important element in developing and working to well considered goals that reflect the knowledge and interests of all the member groups. It provides the ‘big picture’ within which individual group activities can be developed and linked.

Since 1996 the Group has received grants for catchment wide activities as well as funding for a coordinator, primarily for development and implementation of this Strategy. As part of this role, the coordinator has supported individual group activities, helped develop and implement catchment wide activities, worked on education and community awareness and provided liaison with community groups, government agencies and counterpart groups in the ACT and New South Wales.

The Group now has a second part-time coordinator funded under the National Waterwatch Program, and a part-time Education Officer. The Waterwatch activities involve monitoring and evaluation, education and awareness raising and management of projects related directly to water quality. The role of the Education Officer is to accelerate action on education and raising awareness, as success with these is critical if the Group is to achieve lasting success.

The integration of these roles is already increasing the efficiency and effectiveness of Group activities.

GEOGRAPHIC SETTING

The catchment of the Ginninderra Creek and its tributaries crosses the border between ACT and NSW and takes in some 32,000 hectares of land.

There are various land uses in Ginninderra catchment. These include urban, rural, rural residential, nature reserve and areas zoned for further development.

The Ginninderra Catchment Group is aware that the land use situation is not static, and that urban and rural residential development is planned, or possible, in parts of the catchment. For example Gungahlin, the new northern urban precinct of Canberra, is one of the fastest developing areas in Australia with a projected population of 100,000 people within a twenty to thirty year timeframe.

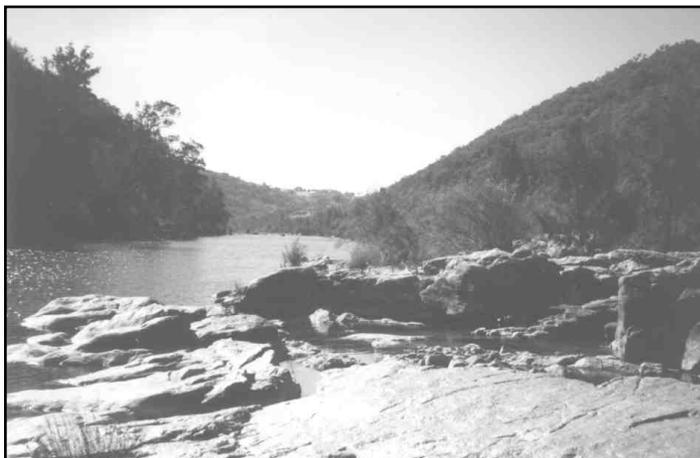
The named tributaries of the catchment include, Ginninderra Creek, Gooromon Ponds, Gold Creek, Gungaderra Creek, Cow Flat Creek, Halls Creek and Beddulluck Creek.

The entire catchment can be roughly broken down into three parts:

- 1) Land above 600m (steeper slopes). Major land uses include Nature Park and broadacre rural.
- 2) Mid Creek Basins 600 - 500m (undulating to flat slopes). Major Land uses include suburbs, developing urban, rural residential, urban open space and some broadacre farming (NSW and ACT).
- 3) The Ginninderra Creek Gorge and the Murrumbidgee River Corridor. Major land uses include broadacre farming and a private nature park.

The water quality of Ginninderra Creek is of importance to many of Canberra's residents as it is the major tributary for the Gungahlin Ponds and Lake Ginninderra. These two lakes form focal geographic, scenic, and recreational sites for the established town centre of Belconnen and the fast growing regional centre of Gungahlin.

Canberra is Australia's largest inland city and it lies entirely within the catchment of the Murrumbidgee River. It therefore follows that there is considerable potential for Canberra to degrade the already stressed aquatic ecosystems of the Murray-Darling Basin. Hence Ginninderra Creek is also of major importance in this regional context as it carries approximately one quarter of the urban runoff from Canberra directly into the Murrumbidgee River system.



Junction of Ginninderra Creek and the Murrumbidgee River

Ginninderra Catchment Land Use Map
(Sorry - can't find map file!)



STAKEHOLDERS

A Stakeholder is any member of the community who resides or works in the catchment, or who is responsible for the management of or has a recognised interest in the resources within the catchment. Stakeholders in the Ginninderra catchment are diverse and extensive and can be categorised into the following key groups.

They include:-

- Residents of the suburbs within the catchment
- Rural lessees and landholders
- Landcare groups
- Parkcare groups
- National Capital Authority
- Environment ACT
- Canberra Urban Parks and Places (CUPP)
- ACTEW
- Planning and Land Management (PALM)
- NSW Department of Land and Water Conservation (DLWC)
- Industry and business
- CSIRO
- CRC for Freshwater Ecology
- Greening Australia ACT and SE NSW Region
- Community and cultural planning groups
- Community service organisations, eg Rotary
- Schools and colleges
- University of Canberra and CIT Bruce Campus
- Naval Transmitting Station, Lawson
- Golf Courses
- Other environmental groups

Committees and working groups currently in place having an influence and interest in the activities taking place within the catchment include:-

- Ginninderra Catchment Group
- ACT Landcare Sub-committee
- Environment Advisory Committee
- Upper Murrumbidgee Catchment Coordinating Committee (UMCCC)
- Murrumbidgee Landcare Association (MLA)
- Murrumbidgee Catchment Board (MCB)
- Rural Conservation Fund Advisory Committee

METHODOLOGY

To date, a number of different processes have identified the issues raised in this report. The Strategy has been developed through the following methodology:-

- **Discussion at the monthly Ginninderra Catchment Group forum.**

The issues raised at this forum and the following discussions gave clear indication of the environmental, social and economic issues that most groups saw as having priority for this catchment. These forums ceased in early 1998. However, communication and consultation continues through regular Ginninderra Catchment Group meetings that include representatives from both government and community.

- **Coordinator attendance at local Landcare/Parkcare group meetings.**

A number of informal surveys and questions at local group meetings identified individual group priorities and goals.

- **Study of individual group management plans.**

Some of the groups in the catchment have developed management plans for their individual areas. The aims and hence the comprehension of these documents differ from group to group. Most plans do however provide a framework for the development of funding applications and on ground activities. Study of these documents as well as funding application forms has been useful in the issue identification process.

- **Study of the Results of the community consultation process undertaken by the Upper Murrumbidgee Catchment Coordinating Committee (UMCCC) in the development of the Murrumbidgee Catchment Action Plan.**

The extensive community consultation process undertaken by the UMCCC in the development of the Murrumbidgee Catchment Action Plan gave invaluable insight into a broad range of issues, including the economic and social constraints facing the region. All the findings of this report are directly relevant to the Ginninderra Creek catchment.

- **Goals and objectives outlined in this Strategy have also been developed with reference to:**

- The National Strategy for Ecologically Sustainable Development
- The National Strategy for the Conservation of Australia's Biological Diversity
- Endangered Species Protection Act 1992
- National Weeds Strategy
- National Water Quality Management Strategy
- National Capital Plan
- The Territory Plan
- The Murrumbidgee Catchment Action Plan
- The Upper Murrumbidgee River Action Plans
- Upper Murrumbidgee Willows Strategy
- The ACT Weeds Strategy
- The ACT Weed Management Program 1998-99
- ACT Draft Nature Conservation Strategy
- Canberra Nature Park Draft Management Plan
- ACT Fire Fuel Management Plan
- ACT Future Water Supply Strategy.
- ACT State of the Environment Report 1997,98
- ACT and Sub-region Planning Strategy
- Draft Cultural Strategy for Belconnen

As the Ginninderra Creek Catchment Strategy is implemented and reviewed, new and relevant strategies will be referred to.

- **Production of a draft plan - distributed to key stakeholders and asset managers for comment.**
Circulation of the draft resulted in suggestions and comments from the various asset managers in the Ginninderra catchment. After follow up consultation, these comments were considered and incorporated into the final plan.

- **Preparation of the report *Assessment of the Environmental Status of the Urbanised Section of Ginninderra Creek Corridor* by Alison Elvin and Associates.**

The purpose of this report was to technically assess the key environmental health and management issues of the creek and its surrounding open space, and the causative agents of these issues, as well as to assess the possible impacts Landcare work will have on the water quality and biodiversity of the creek. Elements within the draft Ginninderra Catchment Strategy were then reviewed in light of the material in Alison Elvin's report. The detail in the report complements the Strategy by providing a technically sound basis for proposed activities.

- **Distribution of final draft to Ginninderra Catchment Group members.**
The final draft was circulated to members of the Ginninderra Catchment Group including the existing Landcare and Parkcare groups, for suggested changes to produce the final version.
- **Distribution and launch of final version of Ginninderra Catchment Strategy 2000.**
The group launched the Strategy in 2000 and copies went to all key stakeholders in the Ginninderra catchment, including asset managers, Landcare and Parkcare groups. Copies also went to the surrounding networks of Landcare groups in the Murrumbidgee catchment.
- **Continuing evaluation of Strategy.**
In order to ensure the goals of this Strategy remain relevant to environmental, political and cultural priorities, the Group will issue a short yearly progress report on the Strategy. This will ensure that the document is regularly evaluated while the community remains updated on issues and implementation of projects. It will be necessary to ensure that the review process deals explicitly with changes flowing from the National Capital Plan and Territory Plan.

Community Planting Day for the Olympic Landcare Project, Hall.



WHAT WE WANT TO ACHIEVE

The long term goals of the Ginninderra Catchment Group are to:-

- **Work with all relevant stakeholders to create ecosystems that accommodate human settlement but reduce the impacts and their effects on environmental systems.**

Within the Ginninderra Catchment Group there is a strong movement towards sustainable land management. This means focusing efforts and attentions on the causes of land and water degradation rather than continually developing responses to symptoms. The long term result should be diverse, self sustaining, ecosystems which are suited to the urban environment of the catchment.

- **Work with all relevant stakeholders to restore and maintain as much of the natural setting as possible within an urban environment.**

A goal of Landcare and Parkcare groups in the Ginninderra Creek Catchment is to control, by careful management practices, populations of exotic flora and fauna that are at present adversely affecting the survival of native plants and animals, as well as decreasing water quality. Regenerating these areas will assist in improving the environmental health of the catchment, both for the natural systems and human populations living there.

- **Ensure more systematic, catchment wide sustainable environmental outcomes from the activities of volunteer groups.**

It is expected that, through the planning process, strategic on-ground actions will be identified that:

- Direct and focus groups efforts;
- Complement and integrate with the actions undertaken by each group;
- Give groups the ability to break down large problems into a series of achievable steps;
- Give realistic, measurable achievable targets;
- Reduce the amount of administrative work carried out by individual groups.

- **Develop and implement a Catchment Strategy to achieve the above goals.**

This Strategy intends to provide a framework for individual Landcare action projects. It will also provide a basis for long term planning into environmental work thereby improving the health of the catchment. It will also provide the context for the development of catchment wide action plans involving all stakeholders in the Ginninderra catchment.

In order to achieve these goals we need to:

- **Develop partnerships where community and government participates in catchment actions directed by the Strategy.**

Due to the complexity of the Ginninderra Creek catchment and the interrelated nature of environmental problems, it will be necessary to inform, involve and influence a large number of stakeholders in order to achieve our goals. This will be carried out on an issue specific basis and may exist in the form of public awareness activities, consultation with government agencies, and the development of forums or joint projects involving Landcare groups and other stakeholders. Improving partnerships between agencies and the community is a major goal of this Strategy. It will lead to effective environmental management and increase understanding and responsibility in relation to issues such as weed control, stormwater management and bushfire management.

- **Encourage recruitment and recognition of Landcare groups.**

Environmental restoration in any form is a long term process. It is therefore essential that awareness, participation in and enthusiasm for this type of activity continues to grow and develop in the long term. The Ginninderra Catchment Group seeks to influence governments and other relevant stakeholders to develop support structures for community Landcare groups. Further, the Group also aims to improve the ability of individual groups to gain recognition for their achievements.

- **Educate the stakeholders in environmental best practice, while developing an ethos of Landcare friendly policies, legislation, programs and activities.**

The Group seeks to raise the awareness of all stakeholders and Land managers in the catchment (including Commonwealth, ACT & NSW Governments) in developing a Landcare friendly system. Such a system will reward individuals who are environmentally responsible, assist those who would like to be, and encourage best practice from those who are not.

- **Ensure all projects include continuing monitoring and evaluation.**

The Group aims to monitor, update and evaluate the Strategy itself to ensure that the document remains relevant. Planning and implementation of on-ground projects will include a monitoring and evaluation component to ensure appropriate targeting of the efforts of the Group. The Group recognises that monitoring and evaluation is essential for the long term sustainability of on-ground work, and for achieving all the goals of this Strategy.

- **Be able to rely on adequate funding.**

At present the Group relies on funding sources such as the ACT Environment Grants, Natural Heritage Trust and a small amount of sponsorship, to fund the Group's projects, as well as the Coordinators' positions. The Group aims to seek reliable and longer term funding sources in order to maintain continuity and implement projects with outcomes that have sustainable benefits for the environment and communities.

STRATEGY FRAMEWORK

Realistic and effective action is dependent on a catchment strategy that:

- **Describes the catchment - biophysical, human activities, likely future demographic and activity changes.**

Much of the information on the above listed topics does exist. Access to it by the general community however is somewhat difficult because it is fragmented across borders, government departments, contractors, developers, researchers etc. This plan seeks to encourage the consolidation of this material into a central location that will look at various characteristics from the catchment perspective rather than political boundaries. The Ginninderra Catchment Group is currently involved in projects through both Landcare and Waterwatch that aim to increase our understanding and evaluation of the state of the environment in the Ginninderra catchment. It is expected that through this process the gaps in our knowledge will become more obvious and hence positive strategic action can be taken.

- **Sets this in a broader ACT, regional , national, global contexts.**

The achievements of the Ginninderra Catchment Group can only become useful and relevant when reflected at the local, regional, national and international levels. This plan recognises that the actions of our neighbours on any scale may considerably enhance or reduce the effectiveness of our initiatives.

- **Contributes to continuing improvement in legislation, policies and institutional arrangements that facilitate environmentally sound catchment management practices.**

The Group will continue to contribute to consultative, advisory and lobbying activities that influence relevant legislation, policies and institutional arrangements. Participation in implementation and review of major initiatives, such as environment protection legislation and integrated catchment management processes, will be an important part of this.

- **Takes into account those with obligations, responsibilities and interests in respect to the catchment.**

The nature of environmental problems is such that in nearly all cases, everyone has an interest in alleviating them. At present however, there are very few people or stakeholders who feel that it is their responsibility to take action. In the future it will be necessary not only for all stakeholders to take an interest in environmental problems but to take on the responsibility to alleviate them. In an urban environment where land use activities are both varied and intensive it is essential that everyone take responsibility for minimising their negative impacts on the environment.

- **Identifies critical issues**

The effectiveness of this strategy and the Ginninderra Creek Catchment Group will greatly depend on our ability to focus our enthusiasm and resources on issues that have the greatest negative impact on local ecosystems. At present our ability to do this is limited due to either insufficient or inaccessible environmental information on our local catchment. As we have few benchmarks to work from, this deficiency also makes the monitoring of progress difficult. The Ginninderra Catchment Group, in association with Environment ACT, is working to alleviate this problem through initiatives such as the Catchment Health Indicators Project.

- **Is based on priorities and issues identified by the catchment population and others whose action and decisions affect the catchment.**

In order to ensure that the recommendations of this plan are realistic, it is necessary to consider the opinions and considerable knowledge of the catchment population. It is further necessary to acknowledge the roles, responsibilities and interests of the present land owners, lessees and land managers. Continued communication and consultation with these parties will be reflected in the implementation of the Strategy.

- **Proposes positive and practical action.**

In order to propose positive practical action it is necessary to recognise the constraints on the catchment population. Once achieved, it is possible to propose actions that are attainable immediately whilst simultaneously highlighting future actions to undertake. It is necessary to realise the immediate need for continuing research into the state of the catchment environment to ensure that resources are not misdirected or wasted. This task will entail taking into account the problems and uncertainties identified by Landcare groups, land managers and other interested parties.

- **Has an effective implementation process.**

There is a diverse and extensive range of stakeholders in the Ginninderra catchment. The implementation of recommendations in the strategy should reflect the diversity of land managers in the project areas. The Group will ensure that any on-ground projects and activities will not conflict with natural resource management or conservation policies of the ACT Government.

To provide a better strategic approach, relevant management plans developed for project areas will be considered. Any hydrological works contemplated for Ginninderra Creek and its tributaries will be individually assessed through comprehensive engineering studies to ensure appropriate public safety and environmental standards are met.

The Ginninderra Catchment Group will ensure that the recommendations proposed are strategically implemented, depending on funding sources and availability, in order to ensure that the Strategy has direct on-ground benefits.

- **Ensures realistic time frames are met.**

Because there are many different players involved in implementing this Strategy, coupled with the reality of uncertain funding sources, time frames for implementing specific projects are difficult to define. Therefore, a sense of priority is set out in terms of goals, immediate action, long term aims, current projects and proposed projects. Where possible, the Group is committed to specific time frames for individual projects. These time frames will be reflected in the yearly reports of the progress of the Strategy.

Brendan Smyth at the start of the Tour de Creek, Diddams Close, McKellar (North Belconnen Landcare).



INITIATIVES

Several initiatives in pursuit of these goals have already been undertaken.

- The development and continuation of Ginninderra Catchment Meetings that bring together Landcare Groups, relevant government officials and interested individuals to talk about issues pertinent to the catchment as well as providing a vehicle to invite relevant experts to give short presentations on issues of interest to the catchment community.
- An active Waterwatch program within the catchment, facilitated by the Ginninderra Waterwatch Coordinator. This program creates awareness as well as coordinates active monitoring and evaluation of the water quality in Ginninderra Creek and its tributaries, as reflected in the continuing Catchment Health Indicators Project.
- Integrating Waterwatch and Landcare work by targeting on-ground work to the monitoring program in the catchment.
- Involvement in the Catchment Health Indicators Project.
- Membership and representation on the regional committees of the Murrumbidgee Landcare Association, Upper Murrumbidgee Catchment Coordinating Committee & the ACT Landcare Subcommittee.
- Communication with ACT Members of Legislative Assembly to highlight the priority issues within the catchment and maintain awareness of the group and its activities.
- Participation in partnerships with local government in environmental restoration activities, such as revegetation projects along the riparian zone of Ginninderra Creek and Halls Creek.
- Addressing the weed problems in the catchment, through initiatives such as strategic willow removal projects in partnership with CUPP along Ginninderra Creek, to reduce the impact of willows on water quality, public health and safety, wildlife habitat and biodiversity.
- Revegetation projects across the catchment have been undertaken. Local native species are used for revegetation projects where possible, otherwise regional species are used. Projects have had a focus on revegetating the riparian zone of Ginninderra Creek and its tributaries.
- Coordination of the Olympic Landcare Project - a national revegetation project in the lead up to the Olympic Games. The Ginninderra Catchment Group received funding in 1999 for this project in the ACT. The project focused on the rehabilitation of the riparian zone of Halls Creek.
- Organisation of a successful Belconnen entry in the Keep Australia Beautiful competition.
- Educational programs with primary schools, high schools and colleges within the catchment with the emphasis on experiential learning and progressive involvement with local groups.
- Cooperation with research and tertiary institutions such as the CRC for Freshwater Ecology, the University of Canberra, the ANU and the CIT to involve students in research and participation in on-ground work and provide them with opportunities to work with community groups.
- Participation in the development and implementation of environmental awareness raising activities such as Weedbuster Week, National Water Week, ACT Alive, ACT - World Environment Day Fair and Clean Up Australia initiatives.

- Public awareness and education projects to display the work our groups are involved in as well as create greater awareness of the state of the environment in the Ginninderra catchment, with the aim of increasing community involvement and responsibility. An example of such a project is the Tour de Creek - a self guided bicycle tour of the Landcare work along a section of Ginninderra Creek.
- Gaining sponsorship from local businesses and clubs in order to erect signage, repair environmental damage and carry out educational activities such as catchment tours.
- Cooperation and communication with other concerned community groups such as Rotary Clubs, the Belconnen Cultural Planning Group, residential groups and youth groups.
- Attendance and the delivery of papers on Landcare in urban environments at events such as Landcare conferences.
- Development of web pages and participation in the Landcare Links program that seek to use the Internet to share information and ideas with Landcare groups all over the country.



Chief Minister, Kate Carnell and Jane Robinson (Olympian) at the Olympic Landcare Project, Hall.

ISSUES and ACTIONS

Analysis so far has revealed that most Landcare groups in the catchment are concerned with the broad issues of land and water degradation caused by human activities. These concerns are most often couched in terms of either biophysical or internal group management issues.

Biophysical issues

These issues are often first identified by knowledgeable managers, Landcare members and in research work, and then gain greater prominence as they begin to affect public amenity and to cause costs for business, householders and infrastructure managers. They include:

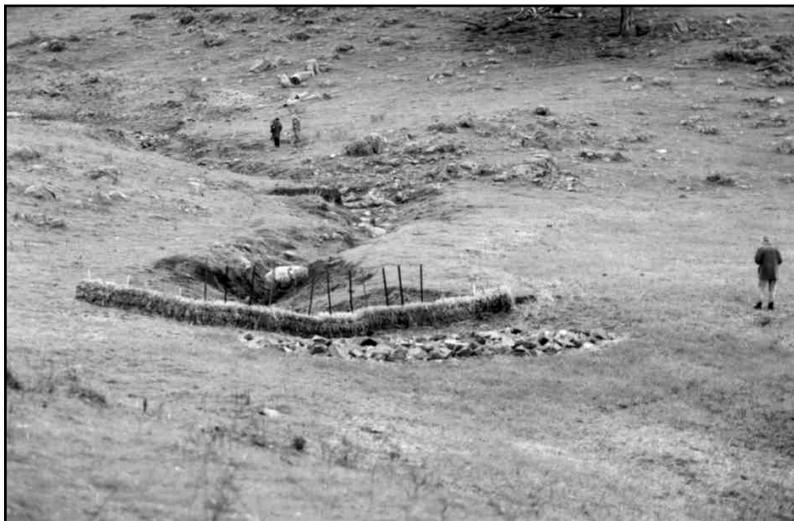
- stormwater quality.
- environmental restoration of degraded areas.
- invasive flora and fauna.
- urban and rural planning and development.
- cultural and heritage conservation.

Internal group management issues

These include:

- relationships between Care groups & land managers.
- recognition and awareness.
- recruitment and participation.
- monitoring and evaluation.
- funding.

The issues and associated actions within this plan have been developed around these central headings. Nonetheless, they amount to a comprehensive resolution of the problems within the catchment, by integrating the physical, socio-economic, cultural and political characteristics of the catchment.



*Erosion control on Mt Painter,
(Friends of Mt Painter).*

Ginninderra Catchment Satellite Map
(Sorry - Can't find map file!)

Stormwater Quality

Historical records indicate that Ginninderra Creek and its tributaries were a ‘chains of ponds’ system before European settlement, a characteristic of the Canberra region. At present for most of its length the Ginninderra Creek functions as an open stormwater channel, draining water from 28 urban and semi-rural suburbs, that feeds both the Gungahlin ponds and Lake Ginninderra. The catchment hydrology of the creek has substantially changed through human activities, affecting quality, quantity, speed and direction of flow.

Water quality within the creek and its tributaries is characterised by high turbidity, low dissolved oxygen, high nutrient levels, vast amounts of visual pollutants, and stream and tributary bank erosion. (ACT Water Quality Report 1995-96).

Some of the visual pollutants and sediments entering the creek are controlled through sediment retention ponds (SRP) and gross pollutant traps (GPT). In the Gungahlin region there are more of these structures than in the older areas of Melba and Evatt. This type of infrastructure is expensive to construct and maintain. Hence there is a practical limit to the number that can be implemented. However, the Ginninderra Catchment Group believes that there is scope for the installation of the GPTs on some of the major stormwater lines running into Ginninderra Creek.

This Strategy recommends the use of energy dissipaters, such as gabion and riffle weirs. Care taken in the design and construction of these structures would ensure scouring around the structure during large flows would not occur. It would also ensure that they do not obstruct the discharge from stormwater outlet pipes. This would prevent localised flooding upstream. Equally, the installation of litter traps at stormwater outlets would require similar care.

The Group wishes to contribute to improve the water quality of Ginninderra Creek by:

Goal	Reducing the volume and velocity of urban stormwater runoff entering the creek.
Immediate Action	<ul style="list-style-type: none"> • The construction, where possible, of energy dissipaters, such as gabion weirs, riffle weirs and catchment ponds, at major stormwater outlets. • The encouragement of all stakeholders to decrease the amount of water that they contribute to the stormwater system. ie: more efficient watering systems, construction of water tanks, avoidance of paved or concreted areas and the retention of water on site.
Longer Term Aims	<ul style="list-style-type: none"> • The restoration where possible of a ‘chain of ponds’ system of flow management. This system would catch stormwater and allow the water to gradually filter back into the Creek. • To influence the change of legislation, programs and policies to make them more consistent with this objective. • To seek to alter government attitudes to stormwater management and encourage the use of best practice infrastructure.
Knowledge Gaps	<ul style="list-style-type: none"> • The effects of these developments on the efficiency of the stormwater removal system. • The negotiation and confirmation of roles and responsibilities for maintaining these structures. • Occupational health and safety issues and defining who would be responsible for maintenance of pollution traps.

Goal	Reducing the volume and velocity of urban stormwater runoff entering the creek.
Completed / Current Projects	<ul style="list-style-type: none"> • The re-development of the McKellar wetland, which includes the development of a pond and surrounding wetland began in 1998. • Other projects are underway in the Creek at Giralang, below the Barton Highway, in an effort to rehabilitate the natural pond system in that area. • Installation of gabion weirs at Flynn to prevent streambank erosion.
Proposed Projects	<ul style="list-style-type: none"> • Development of a wildlife refuge pond and wetland at the stormwater outlet located at the junction of Copland Drive and Ginninderra Drive. • Developing further the chain of ponds and wetlands at the Ginninderra Wetlands Care Group site on Ginninderra Creek.

Goal	Reducing the amount of sediment entering the creek
Immediate Action	<ul style="list-style-type: none"> • Lobby Government to improve the regulation of development and construction guidelines relating to water pollution within the catchment. • Educating the catchment population about the use, collection and disposal of excess sediments generated by human activities. • Improve the frequency and comprehensiveness of water quality monitoring by governments, community groups and research institutions, and use the data as a benchmark for targeted on ground projects that will aim to increase water quality by reducing deposition of sediment into the creek.
Longer Term Aims	<ul style="list-style-type: none"> • Guidelines put in place preventing urban development adversely affecting important waterways.
Knowledge Gaps	<ul style="list-style-type: none"> • Identify the major sources of sediment entering the creek at present, and how these sources would be expected to change with the scheduled developments in the catchment.
Completed / Current Projects	<ul style="list-style-type: none"> • A stormwater drain stencilling project was conducted in 1996-7 in areas of Kippax, Melba and Evatt. The aim of this project was to raise awareness to the fact that what ever flows down the drains eventually ends up in our waterways. This project is being carried on now by schools in the catchment. • The Ginninderra catchment Waterwatch Coordinator is conducting a comprehensive water quality monitoring program involving secondary schools, colleges and Landcare Groups. This compliments the Catchment Health Indicators Project that aims to monitor the levels of water quality.

Goal	Decreasing the amount of visual and dissolved pollutants (rubbish, fertilisers, engine oils, paints, solvents, pesticides and other chemicals) entering the creek.
Immediate Action	<ul style="list-style-type: none"> • Encourage Landcare/Parkcare, schools, scout groups etc to become involved in the stormwater drain stencilling program.
Longer Term Aims	<ul style="list-style-type: none"> • Identify source of the litter that enters stormwater drains ie urban, commercial, sporting facilities etc. • Encourage all stakeholders to take action to reduce the amount of litter entering the stormwater system. This could be either structural (ie: gabion weirs, GPTs etc) or it could be an awareness campaign that seeks to change peoples behaviour.
Knowledge Gaps	<ul style="list-style-type: none"> • Identifying the sources of litter that enters the creek.
Completed / Current Projects	<ul style="list-style-type: none"> • Stormwater drain stencilling • Regular rubbish, removal by Landcare volunteers and other community groups
Proposed Projects	<ul style="list-style-type: none"> • The use of “Maximesh” litter traps at ‘Hot Spot’ stormwater outlets, particularly to filter out syringes, and other hazardous waste. Roles and responsibilities of maintaining these structures would need to be clarified before installation.

Goal	Locating sewer overflows and illegal connections
Immediate Action	<ul style="list-style-type: none"> • Encourage Landcare groups to investigate and document strong odours or discharges that they notice etc. • Set up a reporting system with Tradewaste, ACTEW and the Environmental Regulation and Coordination section of Environment ACT
Longer Term Aims	<ul style="list-style-type: none"> • Greater regulation of residential and commercial water connections to eliminate illegal connections. • Ensure consultation and communication with ACTEW re augmentation of trunk sewers.
Knowledge Gaps	<ul style="list-style-type: none"> • The extent of illegal connections in the catchment. • The extent of sewer overflows from low flow build up known as “chokes”. • Impediments to enforcement.
Proposed Projects	<ul style="list-style-type: none"> • ACTEW’s construction of a local sewage treatment facility as an opportunity for local reuse of a second class water supply. Environmental and heritage concerns need further community consultation. • Investigation into the use of plumbing records to detect illegal sewer connections. • Pursue sponsorship arrangements with groups such as the Plumbers’ Association.

Goal	Monitoring pollutants and sources of pollution by implementing a comprehensive water quality testing program.
Immediate Action	<ul style="list-style-type: none"> • The Waterwatch Coordinator continue to encourage Waterwatch Groups and monitors to carry out regular testing of Ginninderra Creek and its tributaries. • Waterwatch coordinator continue to increase the number of sites measured in the catchment targeting specified hot spots.
Longer Term Aims	<ul style="list-style-type: none"> • Trace sources of pollutants using the outcomes of the Catchment Health Indicators project and develop plans to deal with them.
Knowledge Gaps	<ul style="list-style-type: none"> • Insufficient water quality data to provide information on sources of pollution or to initiate any kind of action.
Completed / Current Projects	<ul style="list-style-type: none"> • Catchment Health Indicators Project that includes nine monitoring sites across the catchment. • Water quality testing and bug sampling with schools in the catchment. • Reporting process to the Group whereby data is regularly collected, and collated every six months, then presented to the Group for review and analysis. From this the Group can determine where on ground work should be targeted.
Proposed Projects	<ul style="list-style-type: none"> • Education programs to promote community responsibility to pollution control. • Targeted work in areas that have been identified through the Catchment Health Indicators Project . • Encourage research projects by undergraduate and postgraduate University students to trace the source of pollutants in the Creek.



Radford College students undertaking Waterwatch drain stencilling.

Environmental Restoration

Much of the Ginninderra Creek catchment has, and continues to be, degraded by the impacts of human activities. Many of the projects undertaken by Landcare groups seek to rectify this damage by returning areas back to a more natural state. The Ginninderra Catchment Group is aware that any action on some of these issues will depend on the extent to which change is possible within the context of the environment transformed by urbanisation and farming.

Any projects that may alter the hydrology of the existing creek system will first involve extensive consultation with relevant land and water managers and hydrological experts, and will take account of relevant strategies such as the Floodplain Protection Guidelines. All proposed projects will be assessed through comprehensive engineering studies to ensure projects meet appropriate public safety and environmental standards.

In the Ginninderra Creek catchment, environmental conservation and restoration projects aim to:

Goal	Control stream and tributary bank erosion
Immediate Action	<ul style="list-style-type: none"> • Identify and map stream and tributary banks that are actively eroding. • Prioritise these from most to least serious. • Seek advice and view case studies to determine the most effective ways to treat stream bank erosion on a case by case basis. • Use Waterwatch and Catchment Health Indicators data to monitor the health of the creek, and form the basis for future targeted projects.
Longer Term Aims	<ul style="list-style-type: none"> • Research and documentation of the best ways to stabilise eroding banks including information on revegetation and construction. • The re-establishment where possible of the original chain of ponds habitat of Ginninderra Creek and Gooromon Ponds. Projects of this nature would involve extensive consultation with relevant hydrologists and asset managers, and would only proceed if demonstrated that the project would have no detrimental environmental or social impacts. • Distribution of information on plant species that are useful in bank stabilisation projects.
Knowledge Gaps	<ul style="list-style-type: none"> • Environmental best practice techniques in stream bank stabilisation and erosion control. • Legislation, policies and programs that may impede this type of restoration.
Completed / Current Projects	<ul style="list-style-type: none"> • Umbagog Landcare Kippax Creek stream bank erosion project. • Friends of Mt Painter ‘Gully Restoration’ Project. • North Belconnen Flynn drain project which was carried out during 1995-96. • Hall district work on gully and stream bank erosion in the Hall region.
Proposed Projects	<ul style="list-style-type: none"> • Involvement in future stream bank stabilisation and erosion control projects conducted by other organisations such as Greening Australia and Environment ACT that focus on projects across the Murrumbidgee catchment.

Goal	Increase biodiversity of the catchment through the revegetation of appropriate sites with a diverse range of local native flora.
Immediate Action	<ul style="list-style-type: none"> • Ensure groups are aware of the types of native vegetation indigenous to the catchment. • Develop a catchment wide species list. • Encourage all stakeholders to use native species in any type of revegetation. Locally indigenous species should be used if possible, otherwise regional species should be used where appropriate. • Encourage seed collection and propagation activities.
Longer Term Aims	<ul style="list-style-type: none"> • Need to set up trials using different native species to test which are most successful in out -competing local weeds. • Establishment of a nursery run and managed by the Ginninderra Catchment Group in order to be more self sufficient in the provision and funding of plants for revegetation projects. • Encourage awareness amongst suppliers of plants in the catchment as to the importance of discouraging the sale of weeds to the public.
Knowledge Gaps	<ul style="list-style-type: none"> • Selection of native species in situations where exotics have been removed. ie which native species can best be used to out compete certain weeds (ie willows, briar, exotic grasses, thistles etc), and to generate desirable ecosystems.
Completed / Current Projects	<ul style="list-style-type: none"> • All Landcare and Parkcare groups have or are currently involved in revegetation programs. Where appropriate a variety of locally suited natives are planted. These plants are either grown from local seed or acquired from nurseries. • Revegetation projects are currently being implemented to complement the weed removal projects in the catchment. Revegetation is being targeted to areas that have had undergone weed removal, particularly willows, in order to maintain bank stability and discourage further weed growth. • Implementation of the Olympic Landcare Project at Hall to revegetate and restore the riparian zone of Halls Creek. • Vegetation map and plan of Mount Painter has been completed and the group will begin revegetating the area in 2000.
Proposed Projects	<ul style="list-style-type: none"> • Revegetation map and plan of Ginninderra Catchment that will be used to prioritise revegetation projects in the catchment. • Implementation of revegetation plan, in partnership with government agencies, such as CUPP, ACT Parks and Conservation and landholders. • Instigate a volunteer program to grow seedlings from locally collected seed. • Regular habitat assessment of project areas as an indicator of environmental health and for evaluation projects.

Goal	Conserve existing areas of remnant vegetation and enhance populations of endangered species.
Immediate Action	<ul style="list-style-type: none"> • Investigate areas of remnant vegetation in the catchment that are not protected. • To map and survey areas where endangered species are known to occur and investigate areas where endangered species would be expected to occur. • Research existing information regarding wildlife surveys of all species in the catchment. • Increase the scope of the Catchment Health Indicators Project to include regular habitat assessments of identified sites. Use this information to focus revegetation projects in the catchment.
Longer Term Aims	<ul style="list-style-type: none"> • Ensure that these areas and species remain protected and that all future land and water management practices enhance habitat quality rather than degrading it. • Where possible, link remnant vegetation patches together to form wildlife corridors and viable areas of habitat. • Restore and conserve native grasslands in the Ginninderra catchment. • Improve access to existing information relating to flora and fauna of the catchment. • Improve institutional arrangements for cross-border cooperation. • Work with the Rural Conservation Fund managers to enhance its effort.
Knowledge Gaps	<ul style="list-style-type: none"> • There is little information of what fauna exist outside the bounds of the Nature Reserve system in the ACT. • There is little thought or consultation going on with surrounding shires and councils on the development of cross border nature conservation corridors. • Planning and decision making complexities inhibiting this type of cross border cooperation.
Completed / Current Projects	<ul style="list-style-type: none"> • Olympic Landcare Project - areas of remnant vegetation along the riparian zone of Halls Creek have been fenced off and extended with vegetation corridors that link the remnant areas to the Creek. • Involvement in the Vegetation Investment Project - a large scale project managed by Greening Australia that aims to link areas of existing vegetation within ACT and region.
Proposed Projects	<ul style="list-style-type: none"> • Establish regular wildlife monitoring in areas of the catchment that do not have regular data collected. • Extend the monitoring and evaluation activities of the Group by involving and incorporating knowledge from specialist groups, such as ornithologist, reptile and insect research groups in the Catchment Health Indicators Project.

Invasive Flora and Fauna

Weeds are prevalent throughout the Ginninderra Creek catchment and occur in conservation areas, farm land, forests, parkland, urban gardens, waterways and road verges. Many see various areas of native grasslands in the Ginninderra catchment threatened by weeds as a major biodiversity and conservation issue.

Throughout the ACT, the responsibility for weed management has not always been recognised or met by relevant stakeholders. Hence, many weed species have proliferated.

The recent release of the ACT Weed Management Program 1998-99 and changes to the ACT rural lease arrangements have gone some way to improving the awareness, coordination and participation of the catchment population in weed control.

The ACT Weed Management Program 1998-99 recognises that serrated tussock, willows, African lovegrass, and English broom, are emerging threats to the Ginninderra catchment and the ACT in general that required education on identification and detrimental effects, point of sale restriction and eradication where possible.

The Ginninderra Catchment Group is also aware that Chilean needlegrass, spiny burr grass, St Johns wort, Paterson's curse, hawthorn, briar, privet, cotoneaster, pyracantha and various species of thistle are priority weeds for this catchment as many of their populations are threatening the long term existence of some native flora and fauna in the area. The Group also recognises the need to control the spread of weeds that are sourced and spread from household gardens.

Exotic fauna are also threatening the native biodiversity within the waterways and open spaces of the catchment, such as introduced bird species, rabbits, cats, foxes, and aquatic species such as the European carp. In some cases the natural ecosystem has altered to such a degree that some native species have become pests in the local area. Other new pest species have become apparent within Ginninderra catchment because of people dumping or releasing aquarium material - for example, the Oriental Weatherloach and alligator weed. The objectives in this section aim to reduce the impact of these invasive and pest species.

The Group wishes to cooperate with and uphold the findings of the ACT Weeds Working Group and the ACT Landcare Sub-committee relating to the priority control of weeds in the Ginninderra Creek catchment by:

Goal	Cooperating with the ACT Parks and Conservation Service and other government agencies in developing surveys of invasive flora in the catchment.
Immediate Action	<ul style="list-style-type: none"> • Ginninderra Creek Catchment Group to use existing information on invasive flora to create a survey map covering the catchment, according to the guidelines supplied by the ACT Parks and Conservation Service and in consultation with the Yarrowlumla Shire Council. • Supply this information to central database coordinator.
Longer Term Aims	<ul style="list-style-type: none"> • Identification of weed sources and seed dispersal mechanisms. • Development of effective enforcement in the ACT and NSW.

Goal	Cooperating with the ACT Parks and Conservation Service and other government agencies in developing surveys of invasive flora in the catchment.
Knowledge Gaps	<ul style="list-style-type: none"> • Identification of the highest priority areas for action.
Completed / Current Projects	<ul style="list-style-type: none"> • Friends of Mount Painter has developed a map of existing vegetation and weed species in the Mt Painter Nature Reserve. • Willow assessment of Ginninderra Creek, funded by CUPP.
Proposed Projects	<ul style="list-style-type: none"> • Develop a systematic habitat assessment program as part of the Catchment Health Indicators Project.

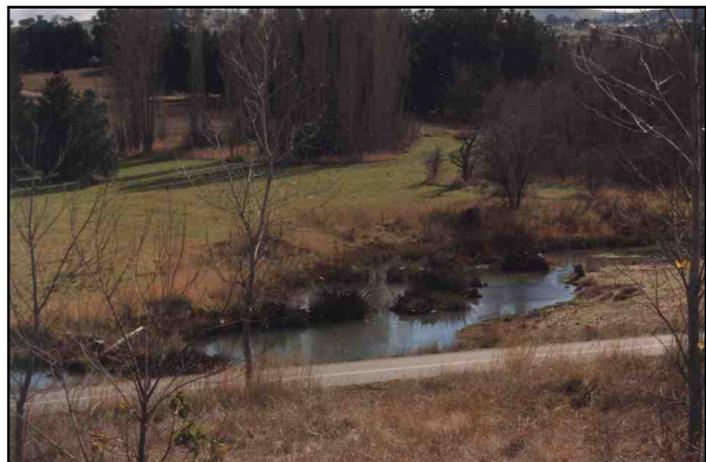
Goal	Identifying gaps in the weed control program within the catchment, and endeavoring to develop joint weed control projects with large non-government stakeholders.
Immediate Action	<ul style="list-style-type: none"> • Enter into discussion with relevant stakeholders as to how the gaps in weed control programs can be filled. • Work with the Serrated Tussock Working Party to help lessees in the catchment coordinate a control program. • Foster the membership in Landcare groups from residents of the Gungahlin and Parkwood regions of the catchment.
Longer Term Aims	<ul style="list-style-type: none"> • Discussion and research into how funding and support can be gained in order to control weed infestation in areas where Landcare groups are not active. • Clarification of the responsibilities of all land managers in the catchment in relation to weed control.
Knowledge Gaps	<ul style="list-style-type: none"> • Surveys to identify high priority areas. • Details of the resources currently available and potential resources for ACT Weed Strategy weed control programs.
Completed / Current Projects	<ul style="list-style-type: none"> • Weed removal project funded for three years under NHT and ACT Environment Grant funding. The project focuses on weed control in high priority areas of the catchment, in partnership with agencies and groups such as the ATCV.
Proposed Projects	<ul style="list-style-type: none"> • Involve farmers, the CSIRO Division of Wildlife and Ecology, representatives from the Belconnen Golf Course, University of Canberra, AIS, Belconnen naval transmitting station and Gungahlin Lakes and Gold Creek golf courses in the Catchment Group activities. • Develop specific action plans to control weeds in the catchment.

Goal	Continuing to improve the coordination of weed control projects by the Landcare and Parkcare groups located in the catchment.
Immediate Action	<ul style="list-style-type: none"> • Document the weed eradication activities already taking place • Determine what weed control activities all groups in the catchment wish to undertake in the next two years. • Consider these in terms of all other weed control activities being undertaken else where in the catchment. • Make any necessary changes.
Longer Term Aims	<ul style="list-style-type: none"> • All Landcare and Parkcare weed eradication activities be integrated with a broader weed control plan guided by the ACT Weeds Strategy.
Knowledge Gaps	<ul style="list-style-type: none"> • The extent of weed control activities being undertaken within the catchment by agencies, land managers and lessees.
Completed / Current Projects	<ul style="list-style-type: none"> • All Landcare groups carry out weed removal and poisoning within their jurisdictions. Weeds targeted include; hawthorn, thistle, St Johns wort, Paterson's curse, serrated tussock, briar and willow.
Proposed Projects	<ul style="list-style-type: none"> • Cooperation and participation in weed control projects that target areas of the catchment outside established Landcare and Parkcare areas.



Willow Eradication project, Umbagog Park (Umbagog Landcare Group).

Ginninderra Creek after Willow Eradication Project, Giralang (Ginninderra Wetland Care Group).



Goal	Removing and controlling all problem willows along Ginninderra Creek and its tributaries by 2010.
Immediate Action	<ul style="list-style-type: none"> • Document and map a willow removal strategy for Ginninderra Creek and its tributaries, that can be used as a guide for implementing willow removal projects over time. • Continue to seek funding to remove priority willows that have been identified in the report - Ginninderra Creek Willow Survey, June 1999. • Work in partnership with CUPP to remove willows in the catchment. • Develop a plan with Yarrawlumla Council for willow removal in the NSW sector of the catchment
Longer Term Aims	<ul style="list-style-type: none"> • Discussion with relevant individuals and groups into the best techniques for willow removal in the catchment, particularly in urban areas, and in the type of replacement vegetation that should be used. • Through the Coordinators of the Group, keep up to date with the latest research into willow removal techniques and environmental effects of willow removal along the riparian zone. • Encourage quality assurance processes in willow removal to ensure best practice techniques are used.
Knowledge Gaps	<ul style="list-style-type: none"> • Best practice into willow removal techniques and subsequent restoration activities.
Completed / Current Projects	<ul style="list-style-type: none"> • Catchment wide strategy to remove priority willows in Ginninderra Creek and its tributaries, funded by NHT and ACT Environment Grant - work to date includes willow removal in areas of Hall, Umbagog District Park, Giralang and North Belconnen. • Hall Landcare Group project to remove willows along stretches of Halls Creek.
Proposed Projects	<ul style="list-style-type: none"> • Targeting identified problem willow sites for willow removal projects. • Monitoring the impact of willow removal projects on the natural environment.

Goal	Continuing to support the weed control projects in the catchment.
Immediate Action	<ul style="list-style-type: none"> • Continue to assist groups gain funds and labour for weed control activities.
Longer Term Aims	<ul style="list-style-type: none"> • Greater commitment from all stakeholders to deal with weed control, including residential lessees.
Knowledge Gaps	<ul style="list-style-type: none"> • The extent of understanding within the general community of the necessity and positive effects of weed removal. • The sustainability of weed eradication programs in the long term.

Goal	Continuing to support the weed control projects in the catchment.
Completed / Current Projects	<ul style="list-style-type: none"> • Hawthorn removal, particularly in the North Belconnen Landcare Group site. • Friends of Mt Painter has carried out broadacre spraying of chemical to control a large infestation of thistles. This has also been combined with other cut and dab techniques. • Ginninderra Wetland Care Group has been involved in a comprehensive program of woody weed removal, including, willows, briar, hawthorn and other weeds such as Paterson’s curse. • Umbagog Landcare group has carried out weed control activities for many years. These have included strategic willow removal as well as spot spraying to protect native grasslands. • Work was carried out in the management of pasture weeds in the Parkwood horse paddocks and the Belconnen Pony Club. • Friends of Aranda Bushland regularly assists Canberra Nature Park in its weed control activities. • The Pinnacles Environment Group is involved in weed control activities on the Pinnacles Nature Reserve. • Kaleen Horse Paddock Care Group have removed extensive areas of briars to prevent further spreading. • O’Connor Ridge Parkcare Group has regular work bees to monitor and control weeds that are encroaching on the Nature reserve from urban areas. • Hall Landcare Group is continuing with a weed removal program to control willows, poplars, hawthorn and other woody weeds in the Halls Creek riparian zone. • The Ginninderra Catchment Group is collectively implementing a three year weed control and revegetation project across the catchment.
Proposed Projects	<ul style="list-style-type: none"> • Further and more extensive weed control projects implemented by individual groups in the catchment as well as by the Ginninderra Catchment Group as a whole. • Monitoring and evaluation of all weed control projects in the catchment.

The Group wishes to minimise the impact of exotic fauna on the native biodiversity of the land and water in the Ginninderra catchment by:

Goal	Using scientific information and principles, in planning for management of invasive fauna.
Immediate Action	<ul style="list-style-type: none"> • Monitor and record the wildlife in the catchment where possible, both native and exotic species. • Maintain awareness of potential new invaders to the area and consequently draw occurrences to the attention of authorities and ensure they are dealt with.
Longer Term Aims	<ul style="list-style-type: none"> • Take advantage of the resources and knowledge available in the ACT in this field to gain advice on the impact of pest fauna on the catchment.
Knowledge Gaps	<ul style="list-style-type: none"> • The extent to which exotic fauna impact on the environmental integrity of the catchment. • Identification of the particular exotic species that need to be targeted for impact reduction.
Completed / Current Projects	<ul style="list-style-type: none"> • Carp research with the Murrumbidgee Landcare Association • Regular macro invertebrate bug sampling at numerous sites along Ginninderra Creek, conducted through the Catchment Health Indicators Project.
Proposed Projects	<ul style="list-style-type: none"> • Community awareness projects, eg brochures and available information at displays etc, on the potential impact of exotic fauna and pest species, and management regimes for impact reduction. Highlighting to the community the impact that pest species have on the whole of the Murray Darling Basin, not just the Ginninderra catchment.

Willow removal and chipping.



Urban/Rural Planning and Development

The Ginninderra catchment contains both urban and rural land use. Land use in rural areas is already changing, and further zoning changes and developments are always imminent. Further suburbs are zoned for development around the fringe of urban Canberra, including rural areas around Gungahlin and Hall. The Ginninderra Catchment Group is aware that future development will have a major influence over the environmental management of the catchment, the effects of which will need to be incorporated into this Strategy. Management of areas may also change, for example the hills, ridges and buffer areas that border the catchment, may in the future become managed as Canberra Nature Park areas. This would have important implications for the goals and projects in this Strategy.

The Group wishes to influence planning and development by:

Goal	Consultation and communication with Commonwealth, Territory and local government agencies that are relevant in planning and development.
Immediate Action	<ul style="list-style-type: none"> • Updating information regarding planning and development in the catchment - ensuring the group is aware of areas zoned for development.
Longer Term Aims	<ul style="list-style-type: none"> • Appropriate planning to safeguard the high conservation areas of the catchment. • Use development and management practices that minimise environmental and heritage impacts. • Increase State of the Environment reporting in the catchment.
Knowledge Gaps	<ul style="list-style-type: none"> • Future style and rate of development in the catchment.
Completed / Current Projects	<ul style="list-style-type: none"> • Submissions and consultation with MLAs regarding particular issues under the ACT Budget. • Involvement in the future management of the Lawson heritage area, including areas of high conservation value.
Proposed Projects	<ul style="list-style-type: none"> • To develop a more systematic relationship with planning and development agencies.

Goal	Ensuring all development in the catchment is planned and implemented using environmental best practices.
Immediate Action	<ul style="list-style-type: none"> • To increase the use of development and management practices and systems that minimise environmental and heritage impacts.
Longer Term Aims	<ul style="list-style-type: none"> • Generating Landcare membership in new areas of development. • Acceptance by government and community to adhere to elements of an Integrated Catchment Management approach to planning and development.
Knowledge Gaps	<ul style="list-style-type: none"> • Identifying and implementing environmental best practice in development and management.
Completed / Current Projects	<ul style="list-style-type: none"> • Participation in the development of a wetland habitat in McKellar. • Involvement in the planning process for the redevelopment of the new Belconnen Town Centre. • Support and involvement in the Belconnen wetland proposal.
Proposed Projects	<ul style="list-style-type: none"> • Seek to participate in the pursuit of environmental best practice in the development of Lawson.

Cultural and Heritage Conservation

The Ginninderra Catchment Group recognises that there are many sites of natural, cultural and heritage significance within the Ginninderra Creek catchment. Some of these have been formally recognised and suitably protected, whilst others are poorly known and afforded little protection from both environmental and human actions.

The Belconnen Cultural Planning Group recently released a Draft Cultural Strategy for Belconnen. The Ginninderra Catchment Group supports the principles outlined in this Strategy.

This plan aims to encourage the:

Goal	Appropriate management and conservation of sites that are of cultural and heritage significance to the catchment community.
Immediate Action	<ul style="list-style-type: none"> • Consult with local aboriginal groups to identify and list any areas of cultural significance. • Conduct research into the European history of the area. • Identify and map all sites of heritage significance in the catchment. • Consultation with appropriate cultural and heritage groups, including the ACT Heritage Council, prior to implementing on-ground work in significant areas.
Longer Term Aims	<ul style="list-style-type: none"> • Suitable documentation and promotion of these sites to encourage interest in the history of the area. • Increase community awareness of the location and importance of identified sites. • Appropriate legal protection for sites of cultural and heritage significance. • Recognition of significant sites of heritage value identified through monitoring and evaluation and survey work conducted in the catchment.
Knowledge Gaps	<ul style="list-style-type: none"> • Further knowledge of Aboriginal sites of significance in the Ginninderra catchment. • Development of management guidelines for heritage areas.
Completed / Current Projects	<ul style="list-style-type: none"> • Tour de Creek - a cultural walking / bicycle tour of the area. • Conservation and protection of the Aboriginal artefact grinding grooves in Latham. • Consultation and communication with the Belconnen Cultural Planning Group regarding current projects in significant areas. • Involvement in planning for the conservation and management of the Lawson heritage area. • Assistance with the protection of the Palmerville heritage area, including the National Landcare Forest. • Assist the owners with the conservation and protection of Ginninderra Falls as a significant natural heritage area of the catchment.
Proposed Projects	<ul style="list-style-type: none"> • Implementing the second stage of “Tour de Creek” to incorporate other areas of Belconnen and Ginninderra Creek. • Education and conservation program to acknowledge Aboriginal sites of significance in the Ginninderra catchment.

Relationship between Care Groups, Land Managers and other Institutions

Restoration of degraded areas in urban environments is a complex task that requires the agreement and cooperation of land managers in the area. Much of the work carried out is subject to vandalism and damage from other urban pressures.

Responsibility for the management of land in the Ginninderra Creek catchment lies with the stakeholders identified in this Strategy. The major managers of land in the catchment are the rural and residential leaseholders of the community. Most of the work the Ginninderra Catchment Group is actively involved in covers areas managed by Environment ACT and Canberra Urban Parks and Places. The Commonwealth Government is also a significant land manager in the area. These asset managers put a great deal of effort into providing support, and where possible funds, to help community groups in the catchment to achieve their goals. In most cases groups see themselves as working in partnership with the government for the greater good.

However, this partnership has never been made official and difficulties have arisen over who should take responsibility for certain tasks, and who is responsible for the maintenance of project infrastructure etc in the long term.

The Ginninderra Catchment Group wishes to clarify and enhance the community Care Group / Land manager relationship by:

Goal	Clarifying the goals and objectives of Landcare Groups and land managers.
Immediate Action	<ul style="list-style-type: none"> • The organisation of vision workshops for some Landcare groups. Discussion of the results of these workshops with land managers.
Longer Term Aims	<ul style="list-style-type: none"> • Consideration and recognition of the realistic role community groups have in land management. • Consideration of the changes in infrastructure that are needed to achieve the goals of this Strategy. • Greater recognition of the role of Landcare and agencies as a coordinating body and as a community advocate.
Knowledge Gaps	<ul style="list-style-type: none"> • The stability of agency support in the long term. • The changing roles of current land managers may in the future. • How these above issues can be guaranteed a positive place in the ACT Budget deliberations.
Completed / Current Projects	<ul style="list-style-type: none"> • The Ginninderra Catchment Group meetings provide a regular forum for working on these issues. • The Group is currently involved in a process initiated by Environment ACT to improve the community / government partnership. Negotiation and consultation in this matter will continue.
Proposed Projects	<ul style="list-style-type: none"> • Hold an annual grassroots Landcare forum, and develop training workshops, for both community and relevant asset managers with the aim to foster relationships between environment community groups and land managers. • Participate in the development of broadly based catchment strategies.

Goal	Creating integrated work schedules.
Immediate Action	<ul style="list-style-type: none"> Identify in advance what activities and projects are being undertaken by Land Managers and Care groups every six months to ensure that they complement each other wherever possible.
Longer Term Aims	<ul style="list-style-type: none"> Land managers inform groups of their:- pesticide spraying programs; mowing regimes; capital works; grazing for weed and fire control; control burns; and areas of management where they feel groups can be of assistance. Care groups informing Land managers about:- working bees; location and species of plantings; weeds - (which are targeted, method of control, timing); future aspirations; tasks which the Group believes need to be undertaken urgently, but are beyond their capabilities.
Knowledge Gaps	<ul style="list-style-type: none"> Identification of responsibilities for the implementation and maintenance of projects.
Completed / Current Projects	<ul style="list-style-type: none"> The Ginninderra Catchment Coordinator and the Ginninderra Waterwatch Coordinator positions have assisted information flow between groups and land managers. Continuation of the Coordinator positions will depend on future funding sources. Distribution of the Ginninderra Catchment Group newsletter - 'Catchment News' to ensure information exchange and notification of events and activities.
Proposed Projects	<ul style="list-style-type: none"> Developing joint strategic plans with the community and government that target specific problems in the catchment, such as weeds.

Goal	Creating links with non-government landholders and rural lessees.
Immediate Action	<ul style="list-style-type: none"> Foster involvement from Australian Institute of Sport, University of Canberra, Naval transmitting station in Lawson, the CSIRO and golf clubs. Initiate further contact and communication with rural lessees to improve the understanding of their aims and the aims of the Catchment Group. Negotiate on ground projects with rural lessees that will be beneficial to the lessee and to the health of the catchment.
Longer Term Aims	<ul style="list-style-type: none"> Encourage all land managers to take responsibility for the environmental management of their land and to adopt environmental best practices.
Knowledge Gaps	<ul style="list-style-type: none"> Issues faced by rural lessees in the Ginninderra catchment and ways in which the Group could assist in addressing those issues.
Completed / Current Projects	<ul style="list-style-type: none"> Working with CSIRO on revegetation projects such as the Olympic Landcare Project. Working to conserve native grassland areas on the Naval Transmitting Station at Lawson. Creating links with tertiary institutions such as UC and CIT to provide opportunities for research projects within the catchment.
Proposed Projects	<ul style="list-style-type: none"> Ensure all rural lessees and landowners that are interested receive relevant information such as the Group newsletter.

Education and Awareness

Attitudes and actions of the local residents ultimately determine the longer term health of the catchment. Permanent solutions to environmental problems rely on changing attitudes and hence behaviour. Surveys have indicated that the issues that Landcare groups see as most ecologically threatening to the catchment were very different to those seen as most threatening by the non Landcare community. Only through community pressure and positive action will resource managers, including householders and rural lessees, adopt environmental best practices. It is therefore necessary to encourage education and awareness of local environmental issues throughout the community, while raising recognition of action taking by Landcare and Waterwatch groups.

The Ginninderra Catchment Group can contribute significantly to the overall education and awareness of the community in the catchment through various activities. Our actions aim to:-

- encourage wider community involvement in actions that will improve the health of our catchment;
- increase awareness of local environmental issues;
- increase awareness and understanding into the activities of Landcare and Waterwatch groups;
- raise the profile of community environmental groups to increase support, resources and membership numbers;

target school age children to foster environmental education for the next generation of resource managers.

The Group wishes to meet these aims by:

Goal	Publishing the Strategy and promote community awareness into its implementation.
Immediate Action	<ul style="list-style-type: none"> • Publish, launch , distribute and promote the Strategy. • Use the Strategy to assist in the development of sub catchment plans in the ACT.
Longer Term Aims	<ul style="list-style-type: none"> • Greater public recognition of the Strategy and its aims. • Encourage the wider community to accept and implement the actions recommended in the Strategy.
Knowledge Gaps	<ul style="list-style-type: none"> • Target stakeholders in the catchment to improve the knowledge base of the Group.
Completed / Current Projects	<ul style="list-style-type: none"> • Encourage wide community involvement in the implementation of the Strategy. • Public launch of the Strategy in early 2000.
Proposed Projects	<ul style="list-style-type: none"> • Updating and improving the Strategy through annual reporting. • Continuing to promote the aims and actions outlined in the Strategy.

Goal	Promoting the Ginninderra Catchment Group, and raising awareness into the on ground work that we do.
Immediate Action	<ul style="list-style-type: none"> • Promote the Strategy. • Continue to write and distribute the newsletter - 'Catchment News'. • Erect signs on project sites. • Promotional articles in relevant newsletters and journals.
Longer Term Aims	<ul style="list-style-type: none"> • Encourage sponsorship (monetary or inkind) for the development of advertising material for Landcare in the whole catchment.
Knowledge Gaps	<ul style="list-style-type: none"> • Market research
Completed / Current Projects	<ul style="list-style-type: none"> • The use of existing resources in the promotion of Landcare, such as the Telstra Communication Kit and the Landcare Starters Kit. • Using on-ground projects as a basis for the promotion of the Group. • Promotional events such as displays, field days, exhibitions, information days etc. • Distribution of the Ginninderra Catchment Group newsletter - 'Catchment News'. • Promotion of the Tour de Creek project. • Use of media including radio interviews, newspaper articles.
Proposed Projects	<ul style="list-style-type: none"> • Establish consistent signage on Landcare sites. • Implement the second stage of the Tour de Creek project to promote awareness of the Group as well as local environment issues. • Further and more consistent use of the media to promote the Group and our activities. • Updating display material and photographs on a regular basis.

Goal	Establishing an education program with schools in the catchment.
Immediate Action	<ul style="list-style-type: none"> • Implement the Ginninderra Education Project (NHT funded in 2000) with four primary schools in the catchment.
Longer Term Aims	<ul style="list-style-type: none"> • Integrate the Landcare and Waterwatch programs on an educational basis through the local schools in the catchment. • Educate students in the catchment about their local environment and how they can make a difference. • Create permanent links between schools and their local Landcare, Parkcare and Waterwatch groups so that their environmental activities will be sustained beyond the scope of the education project.
Knowledge Gaps	<ul style="list-style-type: none"> • An educational resource package that can be given to the schools to compliment the participatory project conducted with the Group. • Research and collation of other educational resources that may be available, to avoid duplication by the Group.

Goal	Establishing an education program with schools in the catchment.
Completed / Current Projects	<ul style="list-style-type: none"> • Established an Education sub-committee of the Ginninderra Catchment Group. • Currently implementing stage one of the education project in the catchment, working with four schools in a series of stages through the school year, including:- education about catchments, Landcare, Waterwatch; field days; propagation and planting; water quality monitoring; bug sampling; habitat assessment; collating data and monitoring and evaluation. • Regular and ‘snapshot’ water quality monitoring with schools in the catchment through the Waterwatch program. • Invitation to schools to participate in Care activities when conducted in their local area - eg Olympic Landcare Project. • Responding to schools request to have a term program set up to work with the Group - eg - 10 week program with Radford College.
Proposed Projects	<ul style="list-style-type: none"> • Extend and implement the current schools package. • Run workshops to train volunteers to run with the schools program when it becomes more established. • Create an award system with students similar to the Landcare badges in the Scouts program, as an incentive to establish longer term links with their local groups. • Initiate ‘Landcare rangers’ with interested students to encourage responsible action toward local environment issues.

Goal	Facilitating links between local media and Landcare to establish regular coverage and reporting of the Group.
Immediate Action	<ul style="list-style-type: none"> • Speak to local papers and find out what stories readers find most attractive. • Discuss the best way to approach them. • Create a regular column discussing issues and activities in the Ginninderra catchment.
Longer Term Aims	<ul style="list-style-type: none"> • Raising the awareness of the catchment community on local environment issues. • Use the media to create an avenue for community views on the proposed on-ground projects of the Group. • Conduct research into what the most effective methods of advertising for an organisation such as Landcare are.
Knowledge Gaps	<ul style="list-style-type: none"> • Market research. • Media skills.
Completed / Current Projects	<ul style="list-style-type: none"> • The Hall District Landcare Group currently have a regular column in the Rural Fringe, a local publication. • Articles in local and Canberra papers regarding specific projects as a means of community information and consultation. • Radio coverage of larger Ginninderra Catchment Group events, such as the schools days and the Olympic Landcare Project.

Goal	Facilitating links between local media and Landcare to establish regular coverage and reporting of the Group.
Proposed Projects	<ul style="list-style-type: none"> • Wider use of rural publications. • Use regular media coverage to increase membership and participation in Landcare in the catchment.



Community Planting Day for the Olympic Landcare Project, Hall (Hall District Landcare Group).



Sandra Harding - Waterwatch Coordinator during a Bug Snapshot, McKellar.

Recruitment of Volunteers and Participation of Volunteers

All groups in the Ginninderra Creek catchment would agree that one of the major impediments to the survival of Landcare and other environmental care groups is the recruitment of new committed volunteers who have sufficient time to devote to Care activities.

Many convenors of local groups often suffer from burnout and would like to down grade their role but find that there is no one to take their place. Improved recruitment is essential if the productive work already being carried out is to be built on.

It is equally important that the Group succeeds in generating links with other community groups, businesses and institutions. They often have aims consistent with Landcare, and already have effective organisations and a wide range of skills and knowledge.

This plan aims to improve volunteer recruitment and community participation by:

Goal	Recruiting new members and supporters.
Immediate Action	<ul style="list-style-type: none"> • Promote Group through media, letterbox drops etc. • Establish better links with other existing community groups, such as resident associations, cultural groups, Neighbourhood Watch, Rotary, ornithologist and wildlife groups. • Continue to encourage links between educational institutions such as CIT and University of Canberra to develop student based research into the issues faced in the Ginninderra catchment and encourage increased participation from the student population. • Approach areas of the catchment that have no active Care group to encourage involvement from the wider community.
Longer Term Aims	<ul style="list-style-type: none"> • Increase the flow of members to Care groups over time. • Marketing and promoting the Ginninderra Catchment Group to access involvement from the wider community. • Increased support for volunteers to avoid 'burnout'. • Sponsorship and 'inkind' support for the Group from larger organisations to assist in resources for volunteers.
Knowledge Gaps	<ul style="list-style-type: none"> • Direct skills in marketing amongst the volunteers to increase membership and participation.
Completed / Current Projects	<ul style="list-style-type: none"> • Regular displays, promotional events, community action days etc, with the aim of recruiting new volunteers and supporters. • Linking with other community groups in the catchment, such as the Belconnen Cultural Planning Group, the Canberra Herpetologist Society and the Belconnen and Hall Rotary Clubs. • Regular links with related programs such as Green Corps and ATCV. • Tertiary student projects undertaken within the Ginninderra Creek Catchment are being used to collect long term environmental data.

Goal	Recruiting new members and supporters.
Proposed Projects	<ul style="list-style-type: none"> • Creating a volunteer register for the whole catchment rather than just for individual Care groups. This may encourage wider involvement as the scope of on-ground activities is increased while avoiding some of the restraints caused by membership in small groups.

Goal	Developing official recognition for the skills acquired by volunteers.
Immediate Action	<ul style="list-style-type: none"> • Develop a resource and skill inventory amongst the volunteers and networks in the catchment. Promote this inventory throughout other Landcare and Waterwatch networks. • Contact learning institutions and industry to discuss how the skills acquired by students during volunteer work could be officially recognised and thus used as accredited qualifications for employment.
Longer Term Aims	<ul style="list-style-type: none"> • Establish greater recognition and support for the needs of volunteers. • Establish official accreditation for Landcare, Parkcare and Waterwatch participation. • Investigate where Landcare and Waterwatch activities could be incorporated into teaching curricula. • Knowledge Gaps • Most effective method in establishing official accreditation for volunteer work. • How to access more extensive resources for volunteers (eg funding, sponsorship options).
Completed / Current Projects	<ul style="list-style-type: none"> • Development of the Ginninderra schools program with the aim of a more permanent relationship between Landcare, Waterwatch and schools in the catchment. • Communication with schools in the catchment to involve them in on-ground and monitoring activities. • Applications for funding to gain greater assistance for volunteers, in areas such as administration, tools, and time.
Proposed Projects	<ul style="list-style-type: none"> • Approach other Care support staff in the ACT with the aim of establishing a generic accreditation system for volunteer work. • Develop formal training programs that help the Group to achieve its goals, while leaving participants with recognisable skills.

Monitoring and Evaluation

The Ginninderra Catchment Group recognises that for projects to succeed it is essential to monitor progress, and evaluate whether goals and time frames are being met. The Group considers monitoring and evaluation to be an integral component of project planning, to ensure that the benefits of on-ground work are sustained.

There are three main areas of monitoring and evaluation that the Group has recognised. The first is related to the Strategy itself, to ensure that the document remains relevant, focused and widely distributed. The second is to ensure that the Landcare and Waterwatch programs become better integrated to help ensure that Landcare and Parkcare work is complimented by a monitoring program at all times. The third is to ensure that all on-ground projects have a monitoring and evaluation process established on a site specific and catchment wide basis.

The Ginninderra Catchment Group wishes to ensure the sustainability of projects by:

Goal	Monitoring and evaluating the Strategy document.
Immediate Action	<ul style="list-style-type: none"> • Setting up effective and efficient organisational arrangements within the Group to ensure the Strategy is implemented. • Setting up a system for the monitoring and evaluation action elements within the Strategy as a document. • Development of appropriate performance indicators.
Longer Term Aims	<ul style="list-style-type: none"> • Increased access to the knowledge required for achieving greatest effect with the project at the least cost.
Knowledge Gaps	<ul style="list-style-type: none"> • Existence of, and access to, technical and State of the Environment information for inclusion in the Strategy document. • Most effective methods of updating the Strategy document for distribution.
Completed / Current Projects	<ul style="list-style-type: none"> • Establishment of the Ginninderra Catchment Group Steering Committee to support staff and develop strategic planning for the Group. • Work plans written for Coordinators to ensure goals and time frames are met. • Activity reports initiated with both Coordinators and volunteers. • Newsletter distribution for information exchange and project updates. • Regular catchment meetings as a forum for monitoring and evaluation of the Strategy.
Proposed Projects	<ul style="list-style-type: none"> • Local State of Environment reporting. • Professional and technical assistance available to groups in addition to the Coordinators roles. • Distribution of the Annual Ginninderra Catchment Group Report to update short and long term project aims and actions made in the Strategy. This will ensure that the strategy remains relevant, while providing an opportunity to keep the community informed of the Group's activities.

Goal	Integrating Landcare and Waterwatch activities.
Immediate Action	<ul style="list-style-type: none"> • Ensure regular communication between Landcare and Waterwatch Coordinators with regard to work plans, project plans and time frames. • Develop future Landcare projects to include a monitoring component that relates to the Waterwatch and Catchment Health Indicators programs. • Analyse water quality data to reflect catchment health and identify problem areas. • Use this data to identify ‘hot spots’ and target on-ground activities.
Longer Term Aims	<ul style="list-style-type: none"> • Establish the Catchment Health Indicators Project to form the basis of the monitoring and evaluation processes for the Group. • Expand the Catchment Health Indicators Project to include a wider range of indicators that will reflect total catchment health. • Include water quality components into future project planning and implementation. • Compile a permanent reporting system for all Landcare and Waterwatch projects. • Use Ginninderra Catchment Group as a case study for establishing a monitoring and evaluation system that truly integrates the Landcare and Waterwatch programs.
Knowledge Gaps	<ul style="list-style-type: none"> • Access and retrieval of previous catchment health indicator data collected in the Ginninderra catchment by other organisations. • Identification of other indicators of catchment health that can be successfully monitored by the community.
Completed / Current Projects	<ul style="list-style-type: none"> • Improved integration of the Landcare and Waterwatch programs, both in the administration of the Group, and in achieving goals set out in the Strategy. • Establishment and development of the Catchment Health Indicators Project in the catchment, with the Ginninderra Catchment Group being the first case study of the project. • Development of the Ginninderra Schools Project, initially set up with the aim to better integrate the educational components of the Landcare and Waterwatch programs. • Analysis and evaluation of data in relation to overall catchment health.
Proposed Projects	<ul style="list-style-type: none"> • Second stage of the education project to integrate Landcare and Waterwatch educational activities. • Implementation of the frog monitoring trial on the riparian zone of Ginninderra Creek. This will be a joint project between Landcare and Waterwatch.

Goal	Monitoring and evaluating the impact of projects undertaken by the Group and its members.
Immediate Action	<ul style="list-style-type: none"> • Ensure all current and future projects in the catchment have thorough monitoring and evaluation processes in place. • Use a variety of means (other than through the Catchment Health Indicators Project) to assess the progress of projects, such as photographic evidence, maps, individual group project reports etc. • Integrate the Catchment Health Indicators project into all on-ground project planning and implementation as a way to monitor the progress of projects, while assessing and evaluating their benefits.
Longer Term Aims	<ul style="list-style-type: none"> • For all volunteers in the catchment to be trained and confident in the implementation of monitoring and evaluation processes. • Increase the scope and range of indicators to be monitored in the Catchment Health Indicators project. • To have a sustainable system of maintenance of on-ground work in place to ensure the longevity of projects, particularly with revegetation work.
Knowledge Gaps	<ul style="list-style-type: none"> • Existence of and access to technical and State of Environment information. • Roles and responsibilities for the long term maintenance of projects. • Identification of other indicators of catchment health that can be successfully and easily monitored by the community.
Completed / Current Projects	<ul style="list-style-type: none"> • Implementation of the Catchment Health Indicators Project into planning , monitoring and evaluating on-ground projects. • Regular water quality assessment including macro-invertebrate sampling through the Waterwatch program.
Proposed Projects	<ul style="list-style-type: none"> • Train volunteers in site assessment for inclusion into their projects. • Use frogs and other wildlife as indicators of increased biodiversity on project sites. • Progress with the Catchment Health Indicators Project as a means of establishing a better system for monitoring and evaluation in the catchment.

Funding

At present nearly all the active groups in the catchment rely on the ACT Environment Grants program or the Natural Heritage Trust to fund their activities.

Understandably the types of projects that are able to be funded under this scheme are fairly limited and short term, and hence many groups feel that there is a need to diversify funding sources or find ways to create their own revenue.

At present some groups have been successful in gaining sponsorship from various local businesses and clubs. This type of revenue however is limited as there is little that Landcare Groups can guarantee in return.

The Ginninderra Catchment Group aims to:

Goal	<i>Establish a guaranteed process for funding and professional support for Landcare groups.</i>
Immediate Action	<ul style="list-style-type: none"> • Lobby and influence government to improve the funding process currently in place for environmental groups. • Seek out funds to employ the services of professional personnel to advise groups on actions and strategies. • Continue applying for funding under the current grant schemes, such as Natural Heritage Trust (NHT) and ACT Environment Grants.
Longer Term Aims	<ul style="list-style-type: none"> • To gain a continuous funding source for Care groups. • Influence changes to current funding processes which will allow Care groups to become more professional and effective. • Work towards government recognition that catchment management, including support for Care groups, is a core activity. • Diversify funding sources and opportunities for Care Groups. • Assist Care groups to become financially self sufficient. • Establish permanent sponsorship to assist in the provision of resources for Care groups, such as computer equipment, tools, office supplies etc.
Knowledge Gaps	<ul style="list-style-type: none"> • Legal or social impediments to funding for environmental groups. • Stability and long term structure of current funding systems, such as NHT.
Completed / Current Projects	<ul style="list-style-type: none"> • Numerous applications for funding for Coordinators and on-ground projects under the NHT and ACT Environment Grants schemes. • Communication and lobbying with the ACT and Commonwealth Governments in the pursuit of guaranteed processes for funding environmental groups, including more professional support. • Participation and contribution to review process for funding arrangements, such as the NHT mid-term review.
Proposed Projects	<ul style="list-style-type: none"> • Submissions and negotiations to relevant government and funding agencies in pursuit of the above goal.

