

Strategic Plan

for



**Established with the financial support of
Adelaide City Council**

BioCity: The Centre for Urban Habitats

is an independent research-based initiative developed with the support of the following organisations:

The University of Adelaide
South Australian Museum
Botanic Gardens
Royal Zoological Society of South Australia Inc.
Weed Management Society of South Australia Inc
Centre for Evolutionary Biology and Biodiversity
South Australian Research and Development Institute
Urban Forests Biodiversity Programme
Flinders University
Urban Ecology Australia Inc
Department of Environment and Heritage
Patawalonga and Torrens Catchment and Water Management Board
Nature Foundation SA Inc
Adelaide City Council
and
The Capital City Committee (ACC and State Government of South Australia)

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BIOCITY: THE CENTRE FOR URBAN HABITATS

Introduction

Extending from the Gawler River in the north, to Sellicks Beach in the south, and bordered by the Mount Lofty escarpment to the east and by Gulf St Vincent in the west, Adelaide is a truly remarkable city. Established in 1836, Adelaide led the world in planning innovation in an environmental context. Since then the community of Adelaide has maintained an active interest and involvement in the protection, enhancement and enrichment of the urban environment. To promote this environmental awareness and to encourage the development and disbursement of environmental initiatives, **BioCity: The Centre for Urban Habitats** has been established. This centre will work from the conservation principles established by many Adelaide workers over the past 167 years, including Cleland, White, Kraehenbuehl and many others, to promote environmental awareness through research, communication and education programmes. It will also provide a forum to promote opportunities for participants in the field to interact with each other and also with the community at large.

The centre is a partnership between the leading environmental institutions in the State. BioCity will interact with local and state governments, industry and the community to undertake research to develop and promote strategies to enhance urban living and will encourage the education, communication and awareness of the importance of our immediate environment. This will lead to the maintenance and enhancement of the biological integrity of urban habitats.

BioCity was established with the strong support of the Adelaide City Council. The Adelaide City Council is the major sponsor .

BioCity is a partnership between the primary ecological and environmental organizations (see below) active within the State of South Australia. These organisations also have direct links to a range of professional and community groups that work on specific environmental issues. The partnership also involves collaborations with the Adelaide City Council and the Capital City Committee and Office of Sustainability (State Government of South Australia).

The Centre will be hosted by the University of Adelaide Discipline of Environmental Biology, School of Earth and Environmental Science. This discipline employs the Director and Deputy Director of BioCity and contains 7 academic staff (ecologists) active in the Centre, and is the most appropriate location for administrative purposes.

Frames of Reference for BioCity

The key issues concerning urban environments, at both local, national and world scales, form the framework for the establishment and function of BioCity. These are:

- (i) The need for both applied and basic research into ecological issues pertaining to the urban environment.
- (ii) The need for active disbursement of information concerning the urban environment and the promotion of, discussion and debate leading to action by the general community.

- (iii) The need to develop multidisciplinary education programmes enabling students studying and training in diverse fields to have a strong environmental background.
- (iv) The need to promote interactions between the University communities, private organisations, government entities and other relevant organisations to improve the initiation, development and continuation of environmental programmes focussing on the urban environment.
- (v) The need for continued development of the current strategic plans for the management of our local environment endorsed by relevant groups within the community and recognised by councils and government.

Mission Statement

To enhance the environment of Adelaide through multidisciplinary research, design, development and education that promotes a rich diversity of flora and fauna in the context of urban living.

Description of BioCity

A Centre which utilises the best of a diverse range of disciplines from plant and animal science to engineering and architecture in order to enrich the lives of the people of Adelaide through study, understanding and education in urban environmental issues. Thus facilitating the creation of a rich, interesting and harmonious environment that is in keeping with the historical development and cultural richness of our parks and gardens.

Advisory Role

Providing information to community groups, individuals, schools, local councils and the State Government is a vital outcome of our research and education programmes. The Centre cannot emphasize more strongly that delivering advice on the basis of pure (basic) and applied research is crucial to changing environmental practices in an urban setting. This philosophy will lead to the establishment of Adelaide as a model city for the integration of urban and environmental issues, and will attract attention world-wide.

BioCity includes representatives from the major policy formulating organisations within the Adelaide City Council and State Government. For the international, national and local community at large, we will respond to requests via a well developed, active website.

Structure and Management of BioCity: The Centre for Urban Habitats

The central feature of this Centre is that it is an active partnership between three faculties within the University of Adelaide and 10 external institutions. Participants are derived from Local and State organisations and private groups. The breadth of expertise is staggering. The support network not only will allow for the untrammelled exchange of information and the opening of new and exciting research partnerships, but will also stand as a model for creating a nexus between University research and education communities and external institutions. The Centre is also designed to be an inclusive partnership and it is expected that many more members will be attracted to the Centre in future.

In May 2003 the Centre was awarded status as a University of Adelaide Research Centre for a period of 5 years. Currently the Centre is a partnership comprising members from:

The University of Adelaide (U of A)

- ~~ES~~ Faculty of Sciences; School of Earth and Environmental Science, Discipline of Environmental Biology
- ~~ES~~ Faculty of Social Sciences; Discipline of Environmental Studies
- ~~ES~~ Faculty of the Professions; School of Architecture, Landscape Architecture and Urban Design
- ~~ES~~ Centre for Evolutionary Biology and Biodiversity (CEBB)
- ~~ES~~ Adelaide Research & Innovation (ARI)

?? **Royal Zoological Society of South Australia, Inc. (RZSSA)**

?? **Department of Environment and Heritage (DEH)**

?? **Botanic Gardens**

- ~~ES~~ Science & Conservation Directorate
- ~~ES~~ Office of Sustainability
- ~~ES~~ Urban Forests Biodiversity Programme

?? **Flinders University**

- ~~ES~~ School of Geography, Population and Environmental Management

?? **South Australian Research & Development Institute (PIRSA-SARDI)**

- ~~ES~~ Pastures
- ~~ES~~ Entomology Unit
- ~~ES~~ Sustainable Practice

?? **South Australian Museum (SAM)**

?? **Patawalonga and Torrens Catchment and Water Management Board (CWMB)**

?? **Nature Foundation SA Inc (NFSA)**

?? **Capital City Committee**

?? **Adelaide City Council (ACC)**

?? **State Government of South Australia**

- ~~ES~~ Department of Premier and Cabinet (DPC)

?? **Urban Ecology Australia Inc (UEA)**

?? **Weed Management Society of South Australia Inc**

?? **University of South Australia (UniSA)**

The list of individual participants below demonstrates that the Centre comprises scientists from the major universities and research organisations, along with community groups and government bodies. The active partners are:

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Dr Jennifer Watling (U of A) jennifer.watling@adelaide.edu.au
Dr Glenys Wood (PIRSA - SARDI) Wood.Glenys@saugov.sa.gov.au

The Management/Advisory Structure of the Research Centre

The Management Committee

Comprises:

- ?? Director (Assoc Prof. Chris Daniels)
- ?? Deputy Director (Dr Jose Facelli)

plus two representatives from the major collaborative organisations:

- ?? Dr Greg Johnston (Senior Research Scientist, Royal Zoological Society of S.A.) and
- ?? Mr Geoff Auricht (Group Leader, Pastures, SARDI)

This group will manage the day-to-day activities of the Centre and implement the programmes determined by the Advisory committee. They will be responsible for organising meetings for all partners and for controlling the dissemination of information. The Director will be responsible to the DVC Research through the Deans of the participating Faculties and to the CEOs of the partner organisations, who comprise the Advisory Board.

The Advisory Committee

Comprises:

- ?? T. Flannery (SA Museum)
- ?? S. Forbes (Botanic Gardens)
- ?? E. McAlister (Adelaide Zoo)
- ?? R. Oke (Urban Forests-DEH)
- ?? B. Hill (SA Museum, CEBB)
- ?? T. Drioli, (SA Water)
- ?? J. Mercer, (Capital City Committee)
- ?? N. Ward, (Adelaide City Council)
- ?? S. Taylor (Environmental Studies)
- ?? J. Dibb-Smith (ARI)
- ?? E. Cornish (Deputy Vice-Chancellor Research, University of Adelaide)
- ?? A. Austin (CEBB) and
- ?? D. Jones (Architecture and Urban Planning)

These individuals are CEOs or Heads of Department or the equivalent in the partner organisations. Drioli, Mercer and Ward represent SA, Water, the Capital City Committee and Adelaide City Council. Dibb-Smith is Director of Adelaide Research and Innovation. This group will be responsible for establishing and overseeing policy. They will oversee the research programme and also review teaching programmes and determine how the information is disseminated to the public, in conjunction with the Research, Communication and Education subcommittees (see below). The advisory board will also oversee the procedures on the distribution of funds to research, teaching and communication programmes.

Accommodation and Infrastructure Support

The Centre will be hosted by the Discipline of Environmental Biology, School of Earth and Environmental Science. Because this discipline employs the Director and Deputy Director of BioCity and contains 7 academic staff (ecologists) active in the Centre it is the logical and appropriate location for administrative purposes.

Subcommittees for the Centre for Urban Habitats

Three committees have been formed to oversee the research, education and communication roles of BioCity. These teams prepared the mission statement, strategic plan and timetable for each area. The Convenors and Deputy Convenors are not necessarily members of the management or advisory boards. These groups will continue to control, monitor and provide support for these areas of activity.

Research

Mark Hutchinson (Convenor)
Nancy Schellhorn (Deputy Convenor)
Tim Flannery
Glenys Wood
Neil Ward
Bob Hill

Communication

David Bass (Convenor)
Ross Oke (Deputy Convenor)
Steve Forbes
Ed McAlister
Steve Donnellan
Rob Morrison
John Mercer

Education

Sandra Taylor (Convenor)
Jenny Watling (Deputy Convenor)
Andrew Austin
John Conran
David Paton
David Jones

A financial committee will be formed to develop the funding strategy as outlined below. This committee can only be created once the three strategies are established. This committee will be structured in the same manner as those above, i.e:

Financial

Member (Convenor)
Member (Deputy Convenor)
Member 3
Member 4

STRATEGIC PLANS FOR RESEARCH, COMMUNICATION AND EDUCATION

RESEARCH

Urban habitats are generally managed using ecological knowledge gained from other, more natural habitats. However, the degree to which urban habitats are influenced by human activities makes them very different from other habitats. Consequently, there is a need to improve our general understanding of the dynamics within urban habitats, and the ways in which they interact with their surrounding environment, including natural terrestrial and aquatic ecosystems. This general understanding is critical for maintaining and improving the aesthetic and environmental qualities of urban habitats for the people who live in them.

In addition to a general framework of knowledge about urban habitats, there is also a need for specific knowledge relating to applied problems of management. Solutions to management questions that are offered by applied research are commonly lacking. This is because applied research, in this context, is often done without an overall synthetic understanding of how urban habitats work. The research component of BioCity will provide this overall understanding of urban environments, using Adelaide as a model, to provide a context in which applied management problems may be viewed, and then better solved. BioCity will also provide applied research on specific applied questions, and use these to test and improve the general framework of knowledge about urban habitats.

Aims

To Discover, describe and establish:

- (i)** mechanisms to conserve local native species and maintain the regional biodiversity
- (ii)** methods to limit the accidental introduction of pest species
- (iii)** methods to assess deliberate introduction of species new to the urban environment
- (iv)** methods to manage non-native species already introduced responsibly, to enjoy a breadth of environments, which reflect our cultural diversity, but which do not lead to the establishment of feral communities of plants or animals
- (v)** mechanisms resulting in decline and increases in abundance of native species in urban habitats
- (vi)** interactions between people and wildlife in urban habitats
- (vii)** provide advice to local and state government, other management bodies, educational institutions and the community in general, either as expert advice from specific scientists in the centre or through the communication and research subcommittees

Primary Outputs

BioCity will provide:

- (i) A detailed description of our urban environment, how it came into being, the component units (species) and biomass, the forces (historical and current) that shape the mix of native and introduced species, and the environmental problems that confront us.
- (ii) A body of authoritative expert advice on how to maximise the quality of the environment in the context of cultural diversity. This advice will be offered in the context of a broad understanding of urban environments, and how they work. It will focus on the environmental quality for Adelaide in the long term and increase the richness of the experience for tourists to Adelaide by enhancing the environmental quality of features.
- (iii) A body of authoritative, scientific information from which governments, councils, organisations (public and private) and individuals can enhance the quality of their own environment.
- (iv) A body of expert researchers to do applied research aimed at resolving specific individual urban environmental issues.

Research programmes in Urban Environments

Research will be undertaken in two specific programs. These programs complement each other, with first taking a holistic, "broad-brush stroke" approach to urban ecology, and the second reflecting specific research with defined outcomes.

Program 1: A review of the urban ecology of Adelaide

Changing Landscapes: The Urban Ecology of Adelaide: 1836-2003 and beyond

This research programme will involve all the partners within the Centre. It will set the framework for the practical output of the Unit. It is envisaged that the partners in the Unit will identify one or more areas where they can contribute. In addition, the partners will identify potential contributors within their organisations, or within the community organisations allied to their institutions who may be able to contribute.

(i) Historical

This section will deal with the change in the ecological community on the Adelaide plains since 1836. It will outline the introduction and spread of introduced pests, identify those native plants and animals that have thrived and those that have declined. The roles of accident, acclimatization societies and cultural trends in the appearance and choice of urban biota will be highlighted. Some key species may be highlighted as important examples. These include: koalas, millipedes, sparrows, blue-tongue lizards, possums, rats, European wasp, clover, scotch thistle, plane trees, Fennel, Broom, Patterson's curse, onion weed, cockatoos, crested pigeons, rosellas, lorikeets, silver gulls etc. The changing way people choose to live, including the "native-ization" of gardens (replacing the European cottage garden) and how this impacts on species survival.

(ii) Patterns of Influx and Efflux

This will deal with the patterns of distribution over time. Some species peak at huge biomass then decline or even become extinct. Others remain present in low numbers, while others oscillate. Furthermore, some species disappear from the area for decades,

yet are now returning. Why do we get such different patterns? What forces drive the changes in plant and animal diversity in the urban environment? Other patterns include changing views to introductions, the gradual reduction in vertebrate introductions, but the progressive increase in invertebrate and plant introductions and changes in house and garden styles etc.

(iii) State of Play: The conditions and issues that confront Adelaide now

This will highlight the conditions now, which influence our urban environment. These will include the importance of tourism as a force for promoting urban design (directly and by accidental importation of species). The rapid transport of goods allows invertebrates to be alive at the point of disbursement. The decline in small bird populations, and the condition of the River Torrens are other potential research topics. Understanding the ecological aspects of fire abatement and management is a critical issue in Adelaide, and many other urban environments. Interactions between people and wildlife have substantial health benefits that are largely unstudied, but have the potential to improve the health and wellbeing of people living in urban environments.

Program 2: Projects

These projects are some of the specific projects drawn from Part 1. They are designed to achieve a specific outcome or goal, be available as postgraduate research projects, and involve more than one of the partners. Specific projects that link directly to outcomes relating to the strategic plans of the Local or State Government will be particularly encouraged. Because each project is an individual item, with a limited goal, but a constructive outcome, then each will directly assist in the achievement of the mission statement. While most projects are research oriented, we will support others that aim to provide a feasibility plan and procedure for achieving a relevant outcome. The example projects outlined below have already been commissioned/started by partners in the Centre. Many more projects will follow in due course.

(i) Bring back the birds

To promote awareness of the decline in species and numbers of small birds, and promote procedures to encourage the establishment of breeding populations of the small insectivorous and seed eating birds.

(ii) Establish the River Torrens precinct as a reserve for riparian flora and fauna

To create the region "up river" and adjacent to the zoo as a riparian reserve - a haven for native plants and riparian animals including lizards, *Hydromys* (the "native otter"), native fish and birds. It is hoped that native mammals such as brown bandicoots can become established along the river Linear Park. The blue green-algae blooms need to be addressed. This riverine system can be linked to the tourist trail that includes the zoo, botanic gardens and botanic park. This precinct will provide a place to test methods of re-establishment of native wildlife, and the extirpation of unwanted introduced species. This research will develop techniques that may be applied elsewhere in urban habitats.

(iii) Revegetate the South East corner of the parklands to the original dry sclerophyll woodland (And frog reserve)

To recreate an area of woodland in the south west corner of the parklands. This recreation would follow the style of Ferguson Park, Stonyfell. The winter creeks that run through the southern parklands could be modified to create breeding ponds for frogs.

(iv) Understanding the role of urban reptiles: Snakes, Bluetongues, garden skinks and geckos

Some reptiles are common in urban habitats. These include three dangerous snakes in the Adelaide area, which present both public health and environmental management issues. Blue tongues and geckos apparently do better in the city than in the hills and surrounding environments. These lizards could serve as models for establishing the conditions required to successfully maintain populations of native animals in the inner city.

(v) Understanding clovers: Mechanisms for the introduction and spread of Mediterranean clovers

To understand the origins, distribution patterns and effects of introduced Mediterranean clovers on the urban environment. Some clovers (such as burr medic) are pests while others may improve the soil and promote the richness of invertebrate communities.

(vi) Roles and issues facing the management of introduced and native invertebrates

To examine the role of invertebrate pests in urban environments and the decline in native species. We know so little about invertebrates in the local environment (with a few notable exceptions: fruit flies, mosquitoes, bees, millipedes, European wasps and a few spiders) yet they are the foundation for successful plant and vertebrate communities. Some examples include moths and their successful survival relative to the decline in the butterflies, and the relationship between introduced and native cockroaches.

(vii) An Ecological Typology for Urban Landscapes: Metropolitan Adelaide Habitat Types - 1836 to the Present

The aim of this project is to develop an ecological typology for urban landscapes that can be used to identify, classify and map the habitat-types of Metropolitan Adelaide, in the first instance, and other Australian cities later. The project will develop a GIS-based procedure for delimiting urban landscape units using land cover attributes indicative of the habitat potential of the units for urban wildlife. We can then use this procedure to map the present habitat-types of Metropolitan Adelaide, determined by the availability of historical data, from European settlement of the region in 1836 to the present. This will build on the Habitats of the Adelaide Region map/cross-referenced species list prepared by DEH/Planning SA/UFBP (uses 10 landcover units) by taking it to a finer scale and will identify opportunities to recreate historical vegetation types in addition to analysing current landcover. It will also lead to modelling/predictions/analysis of habitat value for particular species (esp. threatened) based on the spatial analysis of various revegetation scenarios for relatively large blocks of land (20-100 ha) eg. across the northern Adelaide Plains.

(viii) Roof-Top Parks "Bush Tops": An Example Of Greening The Adelaide City Centre

The city centre is relatively devoid of natural vegetated areas: Therefore the CBD acts as a striking juxtaposition between different ideologies (environmental parklands vs. business and human activity). This artificial delineation encourages the separation of human and environmental issues. "Bush tops" offers an opportunity to reintegrate natural and human environments. Here we propose the utilization of the rooftops of 16 major car parks within the city centre as natural environments. These rooftops are of sufficient area, structurally capable of withstanding the soil, plant and water load. Moreover it is an opportunity to develop an integrated programme for establishing ecological preserves

using built structures. This research will require input not just from scientists but from architects, urban planners and the community.

(ix) People-wildlife interactions

There are many ways in which people and wildlife interact. Some are beneficial, such as the influence that open spaces and animals have on health and wellbeing. Others are less beneficial, such as the potential for zoonotic disease transfer between people and animals, or vice versa. The extremely dense populations of some animals (rodents, pigeons, cockroaches) in urban environments in close proximity to people makes this a very pertinent area for research.

Expanding Research Programmes Within the Centre

The Centre has a large and diverse group of scientists. A major research output of the Centre will be to promote research links between Centre members. New projects will be developed as a result of information exchange within the Centre. Candidate projects include silver gull management at waste management facilities and airports, cockatoo management in the Mt Lofty Ranges, lorikeet and rosella management in gardens and vineyards around Adelaide, native and introduced pigeons as carriers of zoonotic diseases (*Chlamydia*) in City parklands, impact of wildlife on health and wellbeing of people living in metropolitan Adelaide, understanding the biology of the pelican colony at Outer Harbour, and many more.

Methods for Promoting Research Interactions within BioCity

The Centre will continue to promote collaborative activities within itself and encourage connections between the Centre and other organisations, both nationally and internationally.

These aims will be achieved by:

- (i) Playing a key role in the organisation of two national meetings in 2004. These meetings are annual conferences of the Australasian Society for the Study of Animal Behaviour (ASSAB) at Adelaide Zoo in April 2004, and the Ecological Society of Australia (ESA) in the School of Earth and Environmental Sciences in December 2004. The research presentations at these conferences may form the basis of a special Urban Habitats issue of the prestigious journal *Austral Ecology*. This journal is the premier peer-reviewed journal in the field of ecology covering the southern hemisphere.
- (ii) Encouraging the involvement of senior experts in the field to visit South Australia and to communicate with both members of the Centre and the general community. Two such individuals are Prof Steward Pickett and Mr Herbert Girardet.
- (iii) Holding regular meetings and instituting a seminar programme.
- (iv) By acknowledging the Centre in research publications. Research will be published in the best international journals (including *Ecology*, *Oikos*, *Oecologica* and Australian Journals of Ecology, Botany and Zoology). At least one scholarly text is planned for 2004/5. The Centre will have an active involvement in several National and International meetings. There will also be publications in the scientific and popular literature.

National and International Links

The centre will interact with major ecological research organisations within Australia and internationally. These organisations undertake a significant amount of research into aspects of urban ecosystems. We will also form links with other relevant organisations such as the Centre for Urban Ecology in Melbourne. Through our website, attending conferences and other interactions we will identify collaborative organisations with whom we can exchange information and establish partnerships. In particular our website will be constructed to be a crucial mechanism for establishing international links.

Ambit of the Research Committee

The research committee will have duties that include:

- (i)** Drafting the guidelines for “Call for Submissions”, with examples of research topics of special interest to BioCity.
- (ii)** Providing advice to the BioCity Management Committee concerning research needs and priorities.
- (iii)** Setting criteria for project funding. Successful applications would be those that contribute to the stated Mission of BioCity, and would meet one or more of its stated aims.
- (iv)** Calling for submissions and selecting research projects for funding.
- (v)** Identifying priority areas that are not being adequately researched and advise the MC on appropriate action. For example, commissioning projects or taking action to increase the applicant pool.
- (vi)** Receiving and approving progress reports on funded research.
- (vii)** Identifying individuals in the Centre to respond to request for expert advice.
- (viii)** Providing information on the Centres research activities to the Communication and Education subcommittees for publicity and inclusion in course materials.

Priority areas

The research committee will most enthusiastically support projects that:

- (i)** are focused on urban environmental issues
- (ii)** are multidisciplinary and involve more than one partner
- (iii)** have a reasonable opportunity to attract further funding from external sources
- (iv)** provide opportunities for higher degree students

The scope of research areas may include:

- (i)** mechanisms for the conservation of native species within an urban environment.
- (ii)** mechanisms for the identification and control of potentially damaging introduced pest species.
- (iii)** the management of introduced plants and animals.

- (iv) mechanisms for the communication of information concerning relevant issues to promote the education and understanding of urban environments that will promote informed discussion and enhanced urban planning.
- (v) the management and development of the city within an environmental context to improve the quality of life for all residents.

Additional criteria that will be considered are:

- (i) Research projects may vary from one-year projects, such as support for an Honours project, to long term projects that may span several grants from different sources.
- (ii) There should be a mix of large and small projects to ensure that some outcomes are attained in the short-term.
- (iii) Amounts guaranteed from other sources, such as funds as an industry partner in an ARC Linkage application, will have to be balanced against the need for annual funds for shorter projects.
- (iv) Industry or community groups that are interested in funding research into their own environmental priorities may be a source of funds for applicants for BioCity research support.
- (v) Funding for research projects should include stipulations regarding publicity for BioCity and availability of researchers to communicate aspects of their findings directly to the public.

Budget

Currently a budget of \$60 000 to support research can be made available from initial funds provided by the Adelaide City Council . This is only guaranteed for the coming year, with future financial support likely to depend on initial successes of the Centre. Matching State Government funds may also become available.

Call for Submissions

Time lines and review processes need to be finalised. For future years, an April/May call for applications, with a decision on offers to be made towards the end of June, would ensure that researchers could plan for mid-year honours, or receive feedback for Linkage or Discovery applications in time for the end of year application period.

For 2003, the suggestion is that calls for applications could go out in June, with decisions on funding by August.

COMMUNICATION

Introduction

BioCity is required to develop and implement a communication strategy to promote this initiative in Adelaide announced in November 2002 and launched in June 2003. The broad aim of the communication strategy is to ensure that BioCity partners, general public, local government, state government and community organisations are aware of the initiative, the outputs of the centre and the benefits for sustainable management of the city of Adelaide.

Communication is a major component of a successful project. Two leading causes of project failure are insufficient involvement of stakeholders and infrequent communication with sponsors. The best way to approach communication is to develop a clearly planned approach.

Need for a Communication Strategy

Living in the city is a multifaceted and complex task of weighing up lifestyle, social, economic and environmental concerns. No one individual or group can realistically research, understand or communicate all of these aspects. For this reason BioCity has a diverse membership. All of the partners have their own established networks and support mechanisms that service each of their own client or target groups. Often the messages that delivered to clients and stakeholders are duplicated by each of the partners and occasionally some target groups are missed entirely. This communication strategy will serve a number of important functions:

- (i) to coordinate the huge amount of information and deliver it to target audiences using the most effective communication medium
- (ii) to ensure that all partners are aware of the activities all other partners and working in a collaborative and complementary way
- (iii) to ensure that information is provided to clients and implemented

There are a number of outlets for messages concerning the environment, some of which deal with aspects of biodiversity and city living. It is clear from content and stories carried by local and state newspapers that the broader community want to hear about the environment they live in and how they can look after the environment and hand it on to future generations. Talk back radio, lifestyle programs, websites, and newsletters all carry relevant information but not everything is easily understood and much of the information is contradictory. There is a clear need for coordination between partners and between BioCity and media outlets.

The strategy will not replace existing communication structures. It aims to coordinate activities to ensure effective delivery of BioCity's key messages.

Previous Communication Activities

Partners of BioCity have a number of internal and or complementary external outlets for communication. These include *The SARDI Communicator*, *Prime Time*, *Adelaidean*, *Flinders Journal*, *Heritage South Australia Newsletter*, *Environment Management Newsletter About Adelaide* and a range of institutional websites.

Personnel from the centre have developed strong links with ABC radio (ABC 891). The initial launch of the initiative in November 2002 was accompanied by an outside broadcast with ABC radio.

The communication activities have been *ad hoc* and relatively uncoordinated. Initial interest sparked by the launch has continued by regular monthly appearances on radio by the Director of BioCity, Chris Daniels.

The partners continue in their present roles and where possible co-badge activities as BioCity projects. Accordingly this has been opportunistic and reactive.

Email correspondence continues to update partners on developments in BioCity on an informal and *ad hoc* basis.

There has been no concerted development of a public profile of BioCity and no direct formal articulation of information on projects, activities and future of the centre with partners.

Key Issues

Key issues that form part of this communication strategy include:

- (i) Form of communication between BioCity partners
- (ii) Form(s) of communication for transfer of knowledge to partners and community
- (iii) Coordination and management structures for communication
- (iv) Measures of efficacy of communication

Aims

The strategic plan for communication aims to:

- (i) Build and maintain **relationships** within and between partners of BioCity.
- (ii) Facilitate best-practice **policy development** in the city of Adelaide.
- (iii) Facilitate the exchange and transfer of **new knowledge** and best practice generated by BioCity.
- (iv) Generate and maintain widespread **awareness** and knowledge of BioCity.

Target Audiences

The following target audiences have been identified from preliminary discussion of a small communications working group. Some attempt has been made to describe the targets, their awareness, level of knowledge, preferred methods of receiving information, and motivations and barriers to receiving and utilising information.

Target Group	Awareness; Knowledge; Behaviour	Methods/Medium	Frequency	Comments
Centre partners; Participating Agencies	Low to medium; Often concerned with their own core business	?? BioCity newsletter	Monthly, bimonthly or quarterly	Newsletter can provide equivalent of a press release with widespread permission to reproduce in other agency publications. Relatively low cost option
Adelaide City Council	Low to medium; Major sponsor with desire to see regular updates, outcomes of research, new policy development - best practice	?? Newsletter (hardcopy or electronic) – see above ?? Factsheets/guidelines ?? Policy/position papers	see above Irregular	see above
State Government Departments (see centre partners and participants)	Low to medium	?? Policy/position papers		
State Government Ministers	Low to medium Driven by public pressure	?? Policy/position papers		
General Public	Low; Some knowledge of specific issues; Genuine interest	?? Website ?? Logo ?? Brochures/factsheets, Signs ?? Poster displays or similar in museum, zoo, botanic gardens, mall, etc ?? Public lectures	continual event driven	upkeep and management required
Media (TV, Radio, Print – main focus is regional and state but with capacity to expand nationally)	Low to medium; Keen to run any newsworthy material	?? Regular talkback spot on radio ?? Regular news column in <i>Advertiser</i> ?? Media releases (possibly incorporated in a newsletter with 3-4 stories per 1-2 months)	weekly/ fortnightly Weekly Irregular (ideally weekly or associated with newsletter)	availability of individuals need stream of stories

The centre should build a contact list so that target audiences can be effectively covered. This list should include partner representatives, publicity officers in partner organisations, journalists and program producers, ministers, State departmental CEOs, other community and regional environmental groups and newsletter editors.

A detailed list of target audiences should be identified complete with details of the characteristics of each group and what the desired relationship with BioCity should be (e.g. empathy, strategic alliances, sponsors, end users of information, etc). It is recommended that a preliminary investigation/survey be undertaken to identify concerns, perceptions and information needs of stakeholders and partners. The outcomes of that stage can refine the Communication Strategy.

Special Audiences

No special audiences are identified but some consideration might be given to the following groups as the work of BioCity has impacts on and or benefits to:

- (i) Indigenous groups
- (ii) Homeless individuals
- (iii) General metropolitan/suburban area outside the parklands
- (iv) Intellectually disadvantaged
- (v) Mobility disadvantaged

Key Messages

- (i) Biodiversity is important and essential for a sustainable city
- (ii) We can all help to preserve, conserve and improve the biodiversity of the city
- (iii) Biodiversity can help us

This set of key messages can be refined in the light of outcomes of the survey of stakeholders identified above.

Proposed Communication Mix

The aims of this communication strategy reveal a range of target audiences that require different forms of communication. The table above highlights some key communication formats.

The main elements should include:

- (i) Newsletter (BioCity newsletter)
- (ii) Website
- (iii) Radio talkback
- (iv) Newspaper column
- (v) Public lectures
- (vi) Policy/position papers

Other activities and types of communication mixes involve verbal, electronic and written formats and are outlined below:

Verbal	Electronic	Written
?? presentations/briefing sessions ?? networking facilitation ?? staff meetings ?? seminars/workshops ?? stakeholder consultation ?? events ?? launches ?? social gatherings ?? visitation programs ?? attendance at professional conferences	?? personal email to identified stakeholders (part of contacts list highlighted above) ?? possible list server (informally accomplished by generation of email contacts list – probably not sustainable for the scale of BioCity) ?? internet/intranet including: <ul style="list-style-type: none"> o online forums o fact Sheets o newsletter o web sharing of ongoing project planning by internal and external stakeholder 	?? mail outs of important documentation (targeted to key/priority targets) ?? advertising (<i>Advertiser and Messenger</i>) ?? pamphlets and brochures (distributed through stakeholder agencies and downloaded from internet) ?? information in Agency newsletters etc ?? publications in relevant professional society newsletters ?? publication in peer-reviewed journals

A review of information needs undertaken above will refine the communication mix of the strategy.

Issues and Management Contingencies

A capacity for BioCity to respond quickly to emerging issues and debates is essential for BioCity to remain relevant. A register for media contacts would be desirable. Some issues might arise especially within the state government sector on criticism of state government policy and decisions. The same holds for local government. A communication committee should develop an effective management and contingency plan to deal with these potential issues.

Website

One crucial strategy will be to establish, develop and maintain a website. In May 2003 the DSN, BioCity.edu.au was approved. A7 Designs have been hired to commence the development of the web site. This site must:

- (i) provide a mechanism for the exchange of information within BioCity
- (ii) provide resources for the general community
- (iii) provide resources and act as a communication method between members of BioCity and the International Ecological Community
- (iv) provide a forum for the release of information to appropriate sources

Research and Evaluation

It is envisaged that a review of the communication strategy be undertaken within 12 months. In particular partners, stakeholders and the media would be surveyed. Feedback on quality, quantity and relevance of information would form a central plank of the review.

Management

There should be a Communications Officer to plan and facilitate communication activities. Such activities include managing and updating the web site content, facilitating the release of relevant newsworthy items, promoting internal collaborations via a newsletter, seminar series etc. That person should have a budget and a location (centrally located – North Tce). This should be a paid position. The communication sub committee should oversee the communications officer's activities.

Budget

A part-time (0.3-0.5 fractional appointment) communications officer would enable BioCity to develop and implement and maintain an effective communications strategy. The role would be multifaceted and the person would have a range of written skills to cover both electronic and hard copy media. The diversity of partners and staff involved in BioCity make a position such as this essential.

There will be a significant cost in developing the website particularly in the early years of the Centre.

Production costs, functions and venue hire would carry with them some resource implications.

EDUCATION

Introduction

The BioCity research and communication programs need to be integrated with and supported by tertiary education programs at both the undergraduate and postgraduate levels. Ordinary and Honours degree programs allowing students to specialise in Urban Habitat Management would produce graduates able to apply BioCity principles to their future employment and to their communities as environmentally aware and concerned citizens. The best of the Ordinary degree graduates would proceed to Honours and Higher Degree programs where their research would advance our knowledge of Urban Habitat Management theory and practice. Postgraduate coursework programs in Urban Habitat Management would have the additional function of allowing persons already employed in this and related fields to enhance their knowledge of current issues and techniques.

There is an unmet demand in South Australia, Australia and the Asia-Pacific region for undergraduate and postgraduate programs in Urban Habitat Management. Local Agenda 21, which originated during the *United Nations Conference on Environment and Development* (the *Earth Summit*) held in 1992, and the *Second UN Conference on Human Settlements (Habitat II)* held in 1996 inspired government and non-government agencies in all the UN member countries to initiate projects designed to create socially and environmentally sustainable cities. In North America and Europe, a number of tertiary institutions have begun to offer undergraduate and postgraduate programs in Urban Habitat Management and related fields to produce graduates able to participate in these projects. In our region, although individual courses are available at some tertiary institutions, as yet there are no undergraduate or postgraduate programs that focus on Urban Habitat Management from an environmental perspective. This suggests that such programs would be highly attractive to local, interstate and overseas students. It also suggests that the first tertiary institution in our region to develop such programs to an international standard would remain attractive to interstate and overseas students as the regional leader in the field of Urban Habitat Management.

The University of Adelaide is uniquely positioned to develop undergraduate and postgraduate programs in Urban Habitat Management. Such programs would need to be multidisciplinary and have a strong applied focus. BioCity has created linkages between three University of Adelaide Faculties, Schools and Disciplines with existing strong research and teaching interests in Urban Habitat Management and has linked these academic units with a diverse range of other research institutions, state and local government agencies and community groups. The establishment of these linkages has created an opportunity to provide students with an unrivalled educational experience by involving all the BioCity partners in the development and delivery of Urban Habitat Management programs under the academic direction of the University.

Aims

- (i) The Centre will promote teaching programs, particularly those programs that are multidisciplinary.
- (ii) The Centre will encourage the participation of State and Local government bodies within the teaching programmes to provide the crucial link between University education and community requirements and needs.

To achieve these aims the Centre will work with the University, Faculties and Schools to develop options for Full Fee Paying Masters Courses, Undergraduate Courses, and possibly named degrees.

Undergraduate Programs

The University already offers Ordinary and Honours degree programs in Environmental Science and Environmental Studies that could be adapted to include the option of a special focus on urban habitats. An Ordinary and Honours B. EnvSc. (Urban Habitats) program would offer a biophysical science perspective on the environmental issues associated with biodiversity conservation and restoration in cities, while an Ordinary and Honours B. EnvSt. (Urban Habitats) program would offer a social science perspective on these issues.

There would, of course, need to be an overlap between the two programs to ensure that the Environmental Science graduates were conversant with the social context of Urban Habitat Management and the Environmental Studies students were conversant with the ecological context. The need for this overlap would allow the development of an Urban Habitat Management stream within each of the two degrees by cross-listing courses currently being offered by the Faculty of Science and the Faculty of Humanities and Social Sciences. There is also potential for the inclusion in both programs of courses offered by the third BioCity partner in the University, the School of Architecture, Landscape Architecture and Urban Design.

BioCity partners outside the University could be involved in the delivery of undergraduate Urban Habitat Management programs in a variety of ways, including guest lecturers and field excursions to project sites. However, an innovative feature of the current B. EnvSt. program is the inclusion of an internship course (*Environmental Studies: Working in the Field*) at Level III to give students a 'real world' experience of practising the discipline of Environmental Studies/Biology. An Urban Habitat Management Internship course could be included in both a B. EnvSc. (Urban Habitats) program and a B. EnvSt. (Urban Habitats) program to place students with BioCity partners outside the University for a semester of work on a relevant government, business, industry or community project.

Graduates with Ordinary B. EnvSc. (Urban Habitats) and B. EnvSt. (Urban Habitats) degrees could continue to Honours and then to Higher Degree research programs where BioCity linkages would provide numerous opportunities for co-supervision, sponsorship and funding of dissertation and thesis topics across University Faculties and between the University and the external BioCity partners.

Part 1 outlines the kind of cross-faculty programs that could be developed for Ordinary B. EnvSc. (Urban Habitats) and B. EnvSt. (Urban Habitats) degrees.

Postgraduate Coursework Programs

The development of postgraduate coursework programs in Urban Habitat Management could be a major BioCity initiative. The introduction of full-fees for Australian students caused the decline or demise of many of the University's postgraduate coursework programs. However, recent changes in Commonwealth Higher Education policy are encouraging Universities to offer new postgraduate coursework programs with a strong vocational focus that can attract both recent graduates wishing to increase their employment prospects and mature aged professionals wishing to enhance or diversify

their existing expertise. Such programs can generate significant fee income, but their delivery can also be very costly, especially in terms of staff resources.

In the past, to make efficient use of staff resources, postgraduate coursework students were often offered programs 'cobbled together' from existing undergraduate courses and postgraduate courses designed to meet the needs of a number of different student groups. Such programs are no longer viable in today's buyer-driven educational market. Instead, the staff who teach in postgraduate coursework programs must deliver special purpose courses that incorporate not only current research, but also current best practice applications of research to relevant government, business, industry and community activities.

BioCity linkages would allow the development of innovative and high quality Urban Habitat Management courses where University staff would play a co-ordinating role and provide introductory and bridging lectures, but where the main content of the courses would be seminars, workshops and field activities conducted by the external BioCity partners to demonstrate their management problems and solutions. Such courses would not only provide a forum for the exchange of information between staff and students, but would also function as a best practice forum for the participating BioCity partners. An added incentive for participation by the external BioCity partners would be access to a body of highly qualified and motivated students in need of project work to complete their course assessment requirements and Masters dissertations.

Part 2 outlines the kind of postgraduate programs in Urban Habitat Management that could be developed by the University BioCity partners in co-operation with the external partners.

Strategy

During 2003-2004 the Education Committee will consult with the University BioCity partners and external partners to develop proposals for undergraduate and postgraduate programs in Urban Habitat Management with the aim of presenting these proposals to the relevant School and Faculty Committees and the Academic Board in 2004 for possible implementation in 2005.

PART 1: Examples of Undergraduate Course Streams

Urban Habitat Management Specialisation within the Bachelor of Environmental Studies Program

Approved Env St or Geog Level III Course (6 units)		Core Design Studies Course (6 units) or Approved Env St or Geog Level III Course (6 units)		Approved Env Bio Level III Course (3 units)	Approved Env Bio Level III Course (3 units)	Urban Habitat Mgt Internship Level III Course (6 units)	
Env St Core Level II Course (4 units)	Urban Habitat Mgt Core Level II Course (4 units)	Approved Design Studies Level II Course (4 units)	Professional Issues and Techniques Level II Course (4 units)	Approved Env St or Geog Level II Course (4 units)	Approved Env Biology Level II Course (4 units)		
B Env St Foundation Level I Course (3 units)	B Env St Foundation Level I Course (3 units)	B Env St Foundation Level I Course (3 units)	Approved Design Studies Level I Course (3 units)	Approved Soc. Sc Level I Course (3 units)	Approved Science Level I Course (3 units)	Approved Science Level I Course (3 units)	HUMASS or other Faculty Level I Course (3 units)

Level I

1.1 B Env St Foundation Courses (9 units)

<i>ENVT 1110 Sustainable Cities and Liveable Neighbourhoods</i>	3 units
<i>GEOG 1002 Footprints on a Fragile Planet</i>	3 units
<i>SOCI 1001 Social Sciences in Australia</i>	3 units

1.2 Approved Social Sciences Course (6 units)

Two of the following courses:

<i>ANTH 1101 Ethnographic Research: The Making of Anthropology</i>	3 units
<i>ECON 1004 Microeconomics</i>	3 units
<i>GEOG 1004 Population, Globalisation and Social Justice</i>	3 units
<i>POLI 1101 Introduction to Australian Politics</i>	3 units

1.3 Approved Design Studies Course (3 units)

<i>DESST 1006 Built Environments</i>	3 units
(This assumes proficiency in computers and involves some AutoCAD work. Hence, this is a semi-prerequisite in knowledge and expertise; also a 1 st semester 13 week course.)	

1.4 Approved Science Courses (6 units)

Both of the following courses:

<i>ENV BIOL 1002 Environmental Biology</i>	3 units
<i>GEOLOGY 1001 Environmental Geoscience</i>	3 units

1.5 Level I Courses to the Value of 3 units from Humanities and Social Sciences or other Participating Faculties

Level II

- 2.1 Environmental Studies Core Course (4 units)
ENVT 2005 Environmental Ethics and Action 4 units
- 2.2 Urban Habitat Management Core Course (4 units)
ENVT 2001 Urban Biodiversity Management 4 units
- 2.3 Approved Environmental Studies or Geography Course (4 units)
One of the following courses:
- ENVT 2012 Environmental Management* 4 units
 - ENVT 2009 Introduction to EIA* 4 units
 - ENVT 2006 Managing Coastal Environments* 4 units
 - ENVT 2007 Environmental Change* 4 units
 - ENVT 2010 Tourism Development and Sustainability* 4 units
 - GEOG 2XXX Wetlands & Water Resources* 4 units
- 2.4 Professional Issues and Techniques Course (4 units)
GISC 2010 Introductory Spatial information Systems 4 units
- 2.5 Approved Design Studies Course (4 units)
One of the following courses:
- DESST 2035 Natural Systems and Design* 4 units
(No prerequisites, but is taught in 1st semester)
 - DESST 2023 Design and Environments II* 4 units
(Has assumed knowledge in 'design' including DESST 1006 Built Environments I; a second semester 13 week course)
- 2.6 Approved Environmental Biology Course (4 units)
ENV BIOL 2003 Ecology EB 4 units

Level III

- 3.1 Approved Environmental Studies or Geography Courses (12 units)
Any two of the following courses not already offered at Level II:
- ENVT 3012 Environmental Management* 6 units
 - ENVT 3009 Introduction to EIA* 6 units
 - ENVT 3006 Managing Coastal Environments* 6 units
 - ENVT 3007 Environmental Change* 6 units
 - ENVT 3010 Tourism Development and Sustainability* 6 units
 - GEOG 3XXX Wetlands & Water Resources* 6 units
- 3.2 Approved Environmental Biology Courses (6 units)
Both of the following courses:
- ENV BIOL 3000 Terrestrial Ecology* 3 units
 - ENV BIOL 3008 Ecological Management and Restoration* 3 units
- 3.3 Urban Habitat Management Internship or Environmental Studies Course (6 units)
BEnvSt students who have achieved a Distinction or High Distinction average at Level II may take the course URBA 3xxx an *Urban Habitat Management Internship*. Students who are not eligible for, or choose not to take, the internship course may take any one of the Level III Environmental Studies courses listed under 3.1 and not already offered.

3.4 Approved Design Courses (6 units)

One of the following courses:

DESST 3011 Issues in Urban and Landscape Sustainability III 6 units
 (Ideally this should be a core course in the specialisation, however it carries a pre-requisite of successful completion of DESST 2023 Design and Environments II. This cannot be altered given RAlA (architects) and AILA (landscape) accreditation arrangements. So a student would have to do potentially 1006, 2023 and 3011 in sequence as a major.)

Urban Habitat Management Specialisation within the Bachelor of Science Program

Approved Env Bio Level III Course (3 units)	Approved Env Bio Level III Course (3 units)	Approved Design Studies Level III C course (6 units) or Approved Env St Level III Course (6 units)		Urban Habitat Mgt Internship Level III Course (6 units)	Science Faculty Level III Courses (6 units)
Approved Env Biology Level II Course (4 units)	Approved Env St Level II Course (4 units)	Science Faculty Level II Courses (16 units)			
B Env Sc Foundation Level I Course (3 units)	B Env Sc Foundation Level I Course (3 units)	Approved Env St/Geog Level I Course (3 units)	Approved Design Studies Level 1 Course (3 units)	Approved Env St Level I Course (3 units)	Science Faculty Level I Courses (12 units)

Level I

1.1 B Env Sc Foundation Courses (6 units)

ENV BIOL 1002 Environmental Biology 3 units
GEOLOGY 1001 Environmental Geoscience 3 units

1.2 Approved Environmental Studies and Geography Courses (6 units)

ENVT 1110 Sustainable Cities and Liveable Neighbourhoods 3 units
GEOG 1002 Footprints on a Fragile Planet 3 units

1.3 Approved Design Studies Course (3 units)

DESST 1006 Built Environments 3 units

1.4 Science Courses (12 units)

Bachelor of Science Level I courses to the value of 9 units

Level II

2.1 Approved Environmental Biology Course (4 units)

ENV BIOL 2003 Ecology EB 4 units

2.2 Approved Environmental Studies Course (4 units)

ENVT 2001 Urban Biodiversity Management 4 units

2.3 Approved Design Studies Course (4 units)

DESST 2035 Natural Systems and Design 4 units

2.4 Science Courses (12 units)

Bachelor of Science Level II courses to the value of 12 units.

Level III

3.1 Approved Environmental Biology Courses (6 units)

ENV BIOL 3000 Terrestrial Ecology 3 units

ENV BIOL 3008 Ecological Management and Restoration 3 units

3.2 Approved Environmental Studies or Geography Course (6 units)

ENVT 3012 Environmental Management 6 units

ENVT 3009 Introduction to EIA 6 units

ENVT 3006 Managing Coastal Environments 6 units

ENVT 3007 Environmental Change 6 units

ENVT 3010 Tourism Development and Sustainability 6 units

GEOG 3XXX Wetlands & Water Resources 6 units

3.3 Urban Habitat Management Internship or Science Course (6 units)

BEnvSc students who have achieved a Distinction or High Distinction average at Level II may take the course *URBA 3XXX Urban Habitat Management Internship*. Students who are not eligible for or choose not to take the internship course may take other Bachelor of Science courses to the value of 6 units.

3.4 Science Courses (12 units)

Bachelor of Science Level II courses to the value of 12 units.

**PART 2: An Example of Postgraduate Coursework Programs
in Urban Habitat Management**

- (i) Professional Certificates in Urban Habitat Management
- (ii) Graduate Certificate in Urban Habitat Management
- (iii) Graduate Diploma in Urban Habitat Management
- (iv) Masters of Urban Habitat Management

Structure

Professional Certificate

Elective Course (6 units)

Graduate Certificate

Core Course (6 units)	Elective Course (6 units)
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Graduate Diploma

Core Course (6 units)	Elective Course (6 units)	Elective Course (6 units)	Elective Course (6 units)
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Masters

Core Course (6 units)	Elective Course (6 units)	Elective Course (6 units)	Elective Course (6 units)
Dissertation (12 units)			

Course Content and Delivery

Titles are suggestive only. The discipline given in brackets would have responsibility for co-ordinating the course.

Core Course

Urban Habitats: City Form and Ecological Processes (Environmental Studies)

Elective Courses

- Managing the Urban Forest (Environmental Biology)
- Managing Urban Wildlife (Environmental Biology)
- Biodiversity of Urban Streams (Environmental Biology)
- LARCH 4012 Landscape Architecture Studio IB (Landscaping Cities for Biodiversity) (Landscape Architecture) – first semester second 6 weeks; assumed knowledge “design at undergraduate level”
- LARCH 4002 Landscape Architecture Studio ID (Arid Ecology, Landscapes and Habitats) (Landscape Architecture) – second semester second 6 weeks; assumed knowledge “design at undergraduate level”

Dissertation

Research projects sponsored by BioCity partners

Course Delivery

Each course would involve 24 hours of Lectures/Seminars, a minimum of 36 hours of Practicals and a maximum of two full-day Field Trips. Courses could be offered in a variety of formats. The Core Course could be offered during Semester I in the form of weekly Lectures and Practicals, and two full-day Field Trips on weekends during the semester. Other courses could be offered intensively over two weeks during the semester or the mid-semester and mid-year breaks.

Administration

The Education Sub-Committee of the BioCity Management Committee could act as the Award Committee, but the programs would need to be Awards of a specific Faculty (e.g., Faculty of Science).

Budget

Fees will be set by the relevant Faculty, but should be approximately as follows:

	Australian Students	O/S Students
Professional Certificate	\$3,000	\$4,000
Graduate Certificate	\$6,000	\$8,000
Graduate Diploma	\$12,000	\$16,000
Masters	\$15,000	\$20,000

FINANCIAL PLAN FOR BIOCITY - JULY 2003-JULY 2008

Introduction

The financial establishment of this Centre is unusual in terms of funding in that all of the funds required to date have been obtained from outside the University. In 2002, \$10,5,00 was accumulated when the Royal Zoological Society of South Australia, The Botanic Gardens, The Department of Environment and Heritage, the Capital City Committee, the Adelaide City Council the SA Museum and SARDI each provided \$1500 to initiate the formation of the Centre. SARDI subsequently contributed a further \$3,000 towards the Centre and to assist in the first research project (an evaluation of changes in biodiversity within Adelaide since 1836). For 2003/4, funding to the amount of \$100,000 has been awarded by the Adelaide City Council. Applications to the ACC will be made to support the Centre in 2003/4 and beyond.

The continuation of the Biocity initiative and all of its activities relies on continued financial support being found beyond the 2003-2004 financial year.

Aims

- (i) To obtain funding to support research and communication
- (ii) To ensure that teaching programmes are supported by full fee-paying and other mechanisms.

Income and Expenditure 2003/2004

Guaranteed income: July 1st 2003-June 30th 2004 [ACC]: \$100,000
To be provided as 4 separate quarterly payments of \$25,000

Predicted Expenditure

Directors salary 1 day per week (20% of Assoc Prof 2 nd level + oncosts)	\$20,000
Communication, including web site, public events, strategic plan etc.	\$12,500
Research including sponsored conferences	\$60,000
Administrative costs	\$7,500

The mechanism for disbursement of funds for the research and communication activities will follow the strategic plan established by each of those groups.

Other income in 2003/2004

Adelaide City Council of approximately \$50,000 for completion of the Biodiversity survey of Adelaide, including the historical analysis of the patterns of biodiversity.

This money will be spent as a 1-year salary for Ms Catherine Tait to complete their research, to be published as a book.

The Centre will support symposia in the Australasian Society for the Study of Animal Behaviour and Ecological Society of Australia meetings in Adelaide in 2004. This will involve a financial contribution from Biocity toward the conferences hosting the symposia.

4-6 \$500 Honours scholarships from the Nature Conservation Council and from Urban Trees Biodiversity Survey for research in 2003/4. Four \$1000 Scholarships are also available from the Royal Zoological Society of South Australia to support research that may be done in urban habitats.

In addition funding for the Centre to a value of \$100,000 p.a. for three years has been incorporated into the funding bid by the Office of Sustainability (DEH) as part of their funding bid to the State.

Forming Financial partnerships

Four strategies will be followed to establish the financial viability of BioCity:

- (i) *Internal partnerships.* Many of the partners within BioCity are also “end-users”. They require specific, particular research projects or programs to be undertaken, in accord with their own strategic plans. Partners in this category include the Catchment board, Adelaide City Council, State Government authorities, Nature Foundation etc. Therefore, the initiation of collaborations within BioCity should provide a mechanism whereby research can be funded.
- (ii) The identification of local funding sources capable of supporting particular discrete initiatives. Examples include other local councils, Heritage Trust etc. One possibility is to identify philanthropic organisations (e.g. the Pickard Foundation) that can support the web site or other particular high profile activities.
- (iii) *Sponsorships.* Several of the activities of the Centre could be supported by sponsorship. Sponsors could include philanthropic organisations such as the Pickard foundation, or private companies such as Santos. Activities available for sponsorship support include some specific research projects, and some communication activities, for example the web site.
- (iv) To develop a long term funding strategy using the income available to both complete large-scale research and communication programmes, and also to magnify the funds available. The initial focus here will be on the ARC Linkage programme. Several projects, including an “overarching program application” will be submitted in the November 2003 round, on the National Priority Theme “Sustainability”, using Adelaide as a model city. Proposals submitted to the research group and considered appropriate using their criteria can be partnered with funds from the State Government and ACC as the industry partner contribution. The money will be distributed to projects, particularly multidisciplinary, multi-partner projects in a manner to be determined by the Research Committee (see above). We also predict that the projects themselves will be supported by other funding sources.

Establishing the Long-Term Viability of the Centre

ARC-Linkage

We have commenced planning for up to 5 significant ARC Linkage applications to be submitted in November 2003. We will use the commitments from the Adelaide City Council, and other authorities, and also to a much lesser extent (up to but not exceeding

\$5,000) the financial resources of our partners (e.g. the Urban Trees Biodiversity Programme, Nature Conservation Council, Zoo, Botanic Gardens etc). With these partners contributing a total of at least \$250,000 cash we expect the total applications to attract over \$500,000 per annum for 5 years. The linkage grants have a 40-50% success rate, and the success rate is even higher when the cash component from Industry is around 50% of the sum requested.

This ARC-Linkage money will:

- (i) cover the salary of the director
- (ii) pay salary of communications and administrative officers
- (iii) pay the salaries of senior postdoctoral scientists to co-ordinate the research programmes
- (iv) provide PhD and Honours stipends
- (v) provide infrastructure and support for staff, research and development

Responsibility of the Finance Committee

The Finance Committee will:

- (i) create a set of transparent guidelines by which money can be distributed for research by the partners
- (ii) further develop funding strategies
- (iii) liaise with other relevant groups to develop further collaborative programmes and funding applications

Worst Case Scenario

Although highly unlikely, it is possible that the only financial resources available to the centre until 2008 is the money (\$155,000) promised from the Adelaide City Council for 2003/2004 along with some small Honours project stipends. This would result in the \$60,000 allocated to research being spread over 5 years i.e. \$12,000 p.a. This money could still be enough to initiate and complete several of the Centre's smaller scale research programmes. The Biodiversity study will be completed.

Concluding Comments

The Centre is financially independent of the University, with an already established funding base. Continued funding will be dependent on performance and the evaluation of outcomes by the supporting partners. However, by working closely with our funding groups and attracting ARC Linkage monies the most likely outcome is that the Centre can maintain its viability and financial independence throughout the 5-year period and beyond.

June 30th 2003