- Communicate and market the contribution of CALM**Science** Division to attaining CALM's Mission.
- Develop and project CALM**Science** Division's reputation as a credible and dependable source of sound knowledge about conservation, land management and sustainable utilization matters.
- Uphold CALM's commitment to obtaining scientifically sound information through improved resourcing of CALM**Science** Division.
- Continue to apply the most cost-efficient means of carrying out research such as providing resources for post-graduates, collaborating with other agencies, actively seeking external funds and employing contract or consultant staff where appropriate.
- Carry out a balanced program of short-term and long-term research.
- Collaborate with other Government agencies, universities, industries, other interest groups and the public to conduct or co-ordinate research when such interaction will benefit CALM's objectives.
- Maintain science resources such as high standards of herbarium curation, computer and library facilities.
- Recruit, retain and reward talented and productive staff.
- Provide staff with opportunities to reach higher levels of self-development.
- Enhance project co-ordination and staff management skills.

In CALM's Corporate Plan1998-2000, CALM**Science** Division set three explicit targets, namely;

- To undertake a strategic review of CALM's research needs every three years.
- To present an annual series of technology transfer workshops to CALM operations staff.
- To achieve an average of two technical publications per scientist per year.

KEY SCIENCE THEMES AND SUPPORTING PROJECTS

Key Science Theme: Description and documentation of Western Australia's biological diversity (Biological Information Group). Western Australia has a very rich flora and fauna with a diverse array of ecosystems and habitats. CALM**Science** Division will continue with the inventory of systematic, biological and ecological information on the native and alien biota.

Supporting projects:

- Collections management
- Regional information network
- Information systems administration
- Information systems research and development
- Descriptive taxonomy and biosystematics
- Forest Region Flora
- Regional forest assessment
- Bioprospecting

Key Science Theme: Protection and conservation of Western Australia's biological diversity (Biodiversity Conservation Group). CALM**Science** Division will provide knowledge of threatened species and communities and of ecosystems, which are not well represented in the State's reserve system. We will continue to identify processes and organisms that threaten the State's biological

diversity and develop scientifically sound applied technologies to ameliorate these threats (e.g., introduced predators and herbivores, pests and diseases and inappropriate fire regimes). Systematic biological surveys of the State will be ongoing to provide the basis for a comprehensive, adequate and representative reserve system.

Supporting projects:

- Western Shield - fauna recovery
- Western Shield - introduced predator control
- Western Everlasting - flora recovery
- Carnarvon Basin biological survey
- Marine fauna conservation and management
- Aquatic ecosystems conservation
- Salinity Action Plan
- Monitoring rabbit calicivirus disease
- Disturbance management ecology
- Remnant vegetation reconstruction
- Monitoring river health
- CAR reserve system

Key Science Theme: Sustainable utilization of Western Australia's native forests and plantations (Forests and Tree Crops Group). CALM**Science** Division will provide the scientific basis to ensure that the State's native forests and plantation resources are used in an ecologically sustainable manner, which minimizes adverse impacts on the environment. Research will focus on the development of valid indicators of sustainable forest management, and the establishment of plantations for commercial products as well as for environmental benefits (enhancing biodiversity, controlling salinity and erosion, and for carbon sequestration).

Supporting projects:

- Ecologically sustainable forest management
- Forest microbiota management
- Forest fire management
- Sandalwood ecology and management
- Genetics and tree breeding
- Dryland tree crops
- Western bluegum plantations
- Softwood plantations
- Tropical plantations
- Vegetation Health Service

PLANNED ACHIEVEMENTS 1999-2004

Over the next five years CALM**Science** Division will be able to demonstrate success in meeting its obligations to provide up-to-date and scientifically sound information to underpin conservation and land management in an efficient and effective manner in the following areas:

KEY SCIENCE THEME: *Description and documentation of Western Australia's biological diversity*

AIM: *To establish a State resource centre for taxonomic, conservation and economic information on the flora and, in collaboration with other institutes, the fauna of the State*

RELEVANT CORPORATE OBJECTIVES:

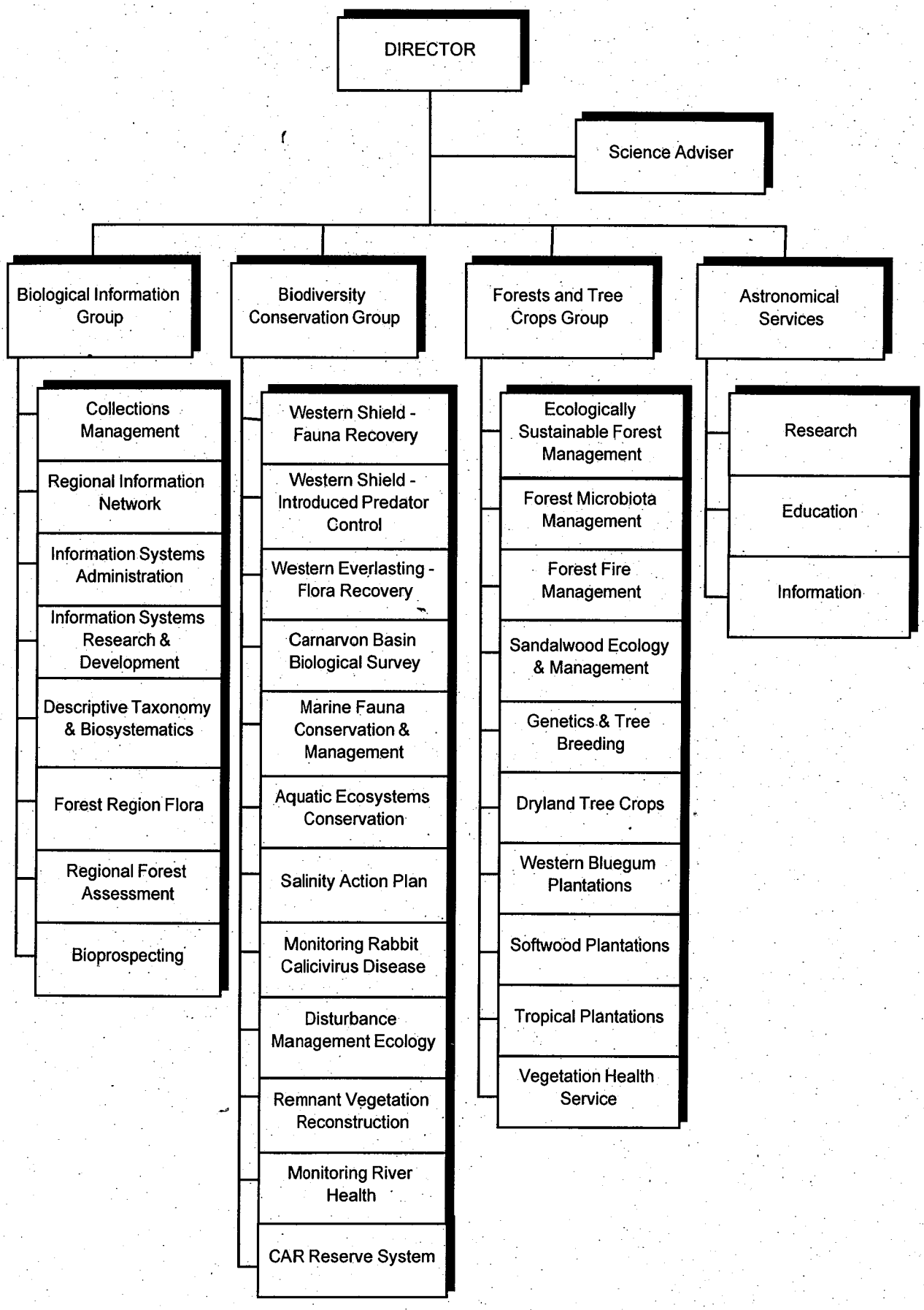
- *Seek and provide an up-to-date and sound scientific and information basis for CALM's conservation and land management activities*
- *Conserve indigenous plants, animals and ecological processes in natural habitats throughout the State*

PROJECTS	PROJECT OBJECTIVES	STRATEGIES	INDICATORS OF SUCCESS
Collections Management	• Maintain and extend the State's scientific collection of specimens to adequately represent taxon distribution and variation. • Maintain currency of names in the corporate names database (WACENSUS), the State Collection and the specimen database (WAHERB).	• Collect, process, identify and name voucher specimens. • Ensure safe storage of the State collection and repatriate WA type specimens held overseas. • Maintain relevant databases. • Facilitate access and loan of specimens • Maintain ancillary collections.	• 5 000 accurately named voucher specimens curated in the State Collection per year.
Regional Information Network	• Develop and service a Regional Information Network to empower Landcare and kindred Groups to contribute and access information on native and alien WA flora.	• Extend volunteer program to regional communities. • Provide training in plant identification and specimen vouchering. • Establish regular communication with regional herbaria and landcare groups.	• 65 active regional herbaria with up-to-date, accurately identified specimens. • 15 000 specimens added to the State collection.

KEY SCIENCE THEME: Protection and conservation of Western Australia's biological diversity (*continued*)

PROJECTS	PROJECT OBJECTIVES	STRATEGIES	INDICATORS OF SUCCESS
		• Maintain *ex situ* germ plasm storage. • Devise, implement and monitor translocation programs.	
Carnarvon Basin Biological Survey	• Assess the adequacy of the current regional reserve system in the Carnarvon Basin.	• Systematic, quadrat-based biological survey to determine the occurrence and the distribution of organisms and species assemblages.	• A scientifically credible and comprehensive, adequate and representative reserve system for the Carnarvon Basin
Marine Fauna Conservation & Management	• Promote regional conservation of sea turtles and dugong.	• Co-ordinate research and monitoring to improve knowledge of ecology, population dynamics and threatening processes.	• A scientifically credible wildlife management document to guide operations to ensure long-term protection of sea turtles and dugongs.
Aquatic Ecosystems Conservation	• Provide scientific information necessary for the conservation of WA wetland ecosystems and maintenance of waterbird populations.	• Assess, identify and nominate wetlands of international importance. • Study the ecology of selected waterbirds. • Monitor various wetlands and waterbirds. • Document the distribution, endemicity and conservation status of aquatic invertebrates and of frogs.	• Management guidelines for Vasse-Wonnerup wetlands. • Directory of important wetlands in WA. • Identification and nomination of wetlands of international significance. • Monitoring and management protocols for selected wetlands.
Salinity Action Plan	• Provide a regional perspective on nature conservation values and priorities in the Wheatbelt Region to guide management.	• Systematic biological survey of representative habitat types.	• Biological survey completed, analysed and written up. • Identification of priority catchments for recovery action.

CALMScience Division Project Management Structure



CALMScience Division Management Council

Dr Neil Burrows
Director

Mr Keith Morris
Manager, Biodiversity Conservation Group

Dr Ian Abbott
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Dr John McGrath
Manager, Forests and Tree Crops Group

Dr Neville Marchant
Manager, Biological Information Group

Dr James Biggs
Manager, Astronomical Services

FOREWORD

This document is the second published Strategic Plan of CALM**Science** Division (formerly Science and Information Division). The first plan covered the period 1995-1999.

In 1996 the Western Australian Government's Perth Observatory (Astronomical Services Program) was transferred from the Department of State Services to CALM, and was placed in this Division. It constitutes Management Program 4 of the Department.

In preparing this plan, it proved difficult to integrate the core research function of the Perth Observatory in a coherent way with the biological research functions of the Division. Accordingly, the two revised strategic plans are kept separate but are published in the same document. This treatment should best satisfy the different audiences for our biological and astronomical research.

The Division is structured around four key science themes:

- Description and documentation of the State's biological diversity (Biological Information Group)
- Protection and conservation of the State's biological diversity (Biological Conservation Group)
- Sustainable utilization of the State's natural resources (Forests and Tree Crops Group)
- Astronomy research, education and information (Astronomical Services Group)

The Science Management Council, consisting of the Director, Science Adviser and Managers of the four science groups (themes) determines policy in the Division. Each science group consists of a number of outcome-based project teams, details of which are provided in the Division's Operations Plan.

Dr Neil Burrows
DIRECTOR

CALMScience Division

STRATEGIC PLAN
1999 – 2004

Department of Conservation and Land Management