THE FYNBOS FORUM

Its Impacts and History

Caroline Gelderblom and Julia Wood

FYNBOS FORUM

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WWF

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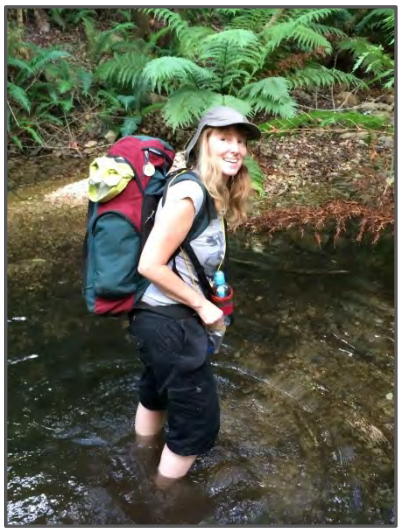

Caroline Gelderblom is an environmental scientist whose emphasis is on promoting conservation by optimising the socio-ecological interface. She has over 20 years of experience in the environmental sector and has, in recent years, focused on institutional strengthening at national, provincial and local levels. Caroline has been a member of the Fynbos Forum since the 1990s, is well-known and respected in the conservation community, and has a good understanding of the both the current drivers and the history of the conservation sector in the Cape Floristic Region. She has a Master's degree in conservation biology and is currently on UNDPs panel of approved technical experts as an independent consultant. Prior to this, she worked for over 10 years at the CSIR where she supported a number of bioregional projects and was seconded to the Working for Water management team. In her early career, she worked at UCT doing conservation planning and at SANBI focusing on biodiversity in southern Africa. She has been involved in writing several books and publications.

Julia Wood, a botanist by training, has spent her career conserving and managing the rich biodiversity in the Fynbos Biome. She has devoted many years to the Fynbos Forum, passionately believing in the power of "champions". She was originally based at UCT and funded by the Arid Zone Biome Project to undertake her MSc on conservation prioritisation in the Worcester-Robertson Karoo. Thereafter, she worked at Kirstenbosch, documenting the vegetation on the Tygerberg Hills. In 1995, she joined Parks and Forests at the Cape Town City Council, working there until she moved to the Table Mountain Fund in 2003. In 2005, she was appointed manager of the Biodiversity Management Branch in the City of Cape Town. At the City, she has made great strides in conserving lowland fynbos and working with local communities in the heart of a rapidly expanding urban area. She first attended the Fynbos Forum in 1993 believing it would be a "once-off." However, in 1995, her new boss, Paul Britton, instructed her to attend the Fynbos Forum at Mispah at a cost of R50. She stayed and went on to become the longest serving committee member and chair of the Forum for eight of those years.

The Fynbos Forum
Its Impacts and History

Caroline Gelderblom and Julia Wood

FYNBOS FORUM MISSION

The Fynbos Forum is an affiliation of researchers, planners, managers, landowners and a range of other stakeholders that meets annually to discuss management issues and research results, and to formulate priorities for future research and conservation management actions required to ensure the conservation and sustainability of Fynbos ecosystems.

In order to achieve this goal, we undertake to assess biological resources, ensure institutional capacity and consider socio-economic issues.

Gigi Laidler

Fynbos Forum 2010 field trip

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NOTE: Individual titles have generally not been used in this book as, in the course of 40 years, titles changed.

Front cover: Cape Sugarbird *(Promerops cafer*) and *Mimetes cucullatus* (Braeme Holland); Fynbos Forum 2017 (Kay Montgomery); Gouritz River Catchment (David Rogers)

Back Cover*:* Landdroskop (Cliff & Suretha Dorse)

Stephen Johnson

Long Proboscid Tanglewing Fly *(Prosoeca longipennis*) on *Protea punctata*

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Caroline Gelderblom

L to R: Wendy Paisley, Tessa Oliver, Christo Marais, Julia Wood, *insert from left* Kristal Maze, Brian Huntley

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Caroline Gelderblom

Julia Wood

Stephen Cousins

Slanghoek Valley with *Kumara plicatilis* in foreground.

ACRONYMS and DEFINITIONS

ABI	Agulhas Biodiversity Initiative
AGM	Annual general meeting
ARC	Agricultural Research Council
BBI	Business and Biodiversity Initiatives Established by conservation agencies to engage the business sectors that have a significant impact on natural resources and livelihoods and to ensure that any use of natural resources is equitable and sustainable.
BCSD	Biodiversity Conservation and Sustainable Development
BGIS	Biodiversity Geographical Information System
Biodiversity Hotspot	A biogeographic region that contains at least 1500 endemic vascular plants and has lost 70% of its original extent—these highly diverse and threatened areas are therefore the top global conservation priorities.
Biodiversity Stewardship	Legal contract with landowners that supports biodiversity conservation on private and communal land.
BIOTA	Biodiversity Monitoring Transect Analysis
BotSoc	Botanical Society of South Africa
BRI	Botanical Research Institute
CAPE	Cape Action for People and the Environment
CapeNature	Western Cape Nature Conservation Board
CBO	Community-based organisation
CCT	Cape Town City Council, now the City of Cape Town
CEPF	Critical Ecosystem Partnership Fund
CFR	Cape Floristic Region
CFRPA	Cape Floral Region Protected Areas World Heritage Site
CNC	Cape Nature Conservation
CPUT	Cape Peninsula University of Technology
CREW	Custodians of Rare and Endangered Wildflowers
CSIR	Council for Scientific and Industrial Research
CSPs	Cooperative Scientific Programmes
CTEET	Cape Town Environmental Education Trust
DAFF	Department of Agriculture, Forestry and Fisheries
DEA	Department of Environmental Affairs
DEAT	Department of Environmental Affairs and Tourism
DECAS	Department of Environmental & Cultural Affairs and Sport
DEA&DP	Department of Environmental Affairs and Development Planning
EC DEDEAT	Eastern Cape Department of Economic Development, Environmental Affairs and Tourism
ECPTA	Eastern Cape Parks and Tourism Authority
EIA	Environmental impact assessment
EPWP	Expanded Public Works Programme
ESKOM	Electricity Supply Commission
FBP	Fynbos Biome Project
FRD	Foundation for Research Development
GEF	Global Environment Facility
HSRC	Human Sciences Research Council

ICSU	International Council for Scientific Unions
IPC	Institute for Plant Conservation, now Plant Conservation Unit
ISCW	Institute for Soil, Climate and Water
ISOMED	International Society of Mediterranean Ecologists
IUBS	International Union of Biological Sciences
IUCN	International Union for Conservation of Nature
IUFRO	International Union of Forest Researchers
Landscape Initiatives	Integrated engagement with local role-players to promote biodiversity conservation and sustainable development on an appropriate scale (Includes corridor initiatives, mega-reserves and biosphere reserves).
MAB	Man and Biosphere
MAREP	Management, Research and Planning
MEDECOS	International Conference on Mediterranean Ecosystems
METT	Management Effectiveness Tracking Tool
NBI	National Botanical Institute
NGO	Non-governmental organisation
NMMU	Nelson Mandela Metropolitan University
NMU	Nelson Mandela University
NPER	National Programme for Ecosystem Research
NPES	National Programme for Environmental Sciences
NPC	Non-profit company
NRF	National Research Foundation
NRM	Natural Resource Management
ORCT	Overberg Renosterveld Conservation Trust
PIF	Project Implementation Framework
PPRI	Plant Protection Research Institute
RDP	Reconstruction and Development Programme
RU	Rhodes University
SAEON	South African Environmental Observation Network
SAFCOL	South African Forestry Company
SAFRI	South African Forestry Research Institute
SANBI	South African National Biodiversity Institute
SANParks	South African National Parks Board
SAPPEX	South African Protea Producers Association
SAWGRA	South African Wildflower Growers' Association
SCOPE	Committee on Problems of the Environment
SDFs	Spatial development frameworks
SIRI	Soil and Irrigation Research Institute. The forerunner of the Institute for Soil, Climate and Water (ISCW).
SU	Stellenbosch University
TMF	Table Mountain Fund
UCT	University of Cape Town
UNDP	United Nations Development Programme
UWC	University of the Western Cape
VOPRI	The Vegetable and Ornamental Plant Research Institute
WESSA	Wildlife and Environment Society of South Africa
WfW	Working for Water
WoF	Working on Fire
WWF-SA	WWF – South Africa

Caroline Gelderblom

Proteas on Tradouw Pass

Stephen Cousins

Geissorhiza erosa, endangered

Braeme Holland

Cape Sugarbird *(Promerops cafer*) on *Mimetes cucullatus*

CHAPTER 1: INTRODUCTION

The south-western corner of the African continent is home to the unique Fynbos Biome[i] recognised globally and cherished locally for its exceptional diversity and the services it provides (box 1.1). In this remarkable region, an affiliation of researchers, planners, managers, landowners and a range of other stakeholders have gathered annually for the past four decades. These annual conferences have formed the foundation for the development of a diverse regional conservation network called the Fynbos Forum. This network, which until 2017 was an informal association driven by the passion of individuals with a common cause, has made a substantial contribution to fynbos conservation.

Indeed, the impact of the Fynbos Forum and the Fynbos Biome Project (from which it arose) has extended far beyond the region. Many of the innovative approaches promoted in the Western Cape have been rolled out nationally and some have been at the cutting edge of international practice. The Fynbos Forum has often played a valuable supportive role in encouraging innovative collaboration—however, until now, this contribution has not been formally documented. The valuable lessons that can be learnt about the extraordinary power of informal networks and the partnerships they facilitate are consequently not well

i. A biome is an area characterised by a distinct biological community that has formed in response to a shared physical environment with similar vegetation, soils and climate.

known. At the Fynbos Forum's 2015 annual general meeting it was therefore decided to write a book that would:

- Recognise and celebrate the achievements of both the Fynbos Forum and the Fynbos Biome Project as a means of learning from them and sharing this knowledge with a wider audience.
- Showcase the Fynbos Forum as an example of a knowledge network containing a number of communities of practice.[1,ii] that has been effective in catalysing collaboration among diverse people from many sectors and institutions.
- Inform the way forward as the Fynbos Forum restructures and refocuses after becoming an independent non-profit company in 2017.

This book describes the history of the Fynbos Biome Project and the Fynbos Forum—together referred to as the "Fynbos Network." It identifies widely applicable lessons regarding the power of networking when it crosses the divide between management and research, and highlights what can be achieved when determined people work together.

Cliff & Suretha Dorse

Ericas at Steenbras Nature Reserve

ii. Communities of practice and knowledge networks are on a continuum with communities of practice being more informal and knowledge networks often having a formal institutional structure—both recognise the importance of interaction in learning.

Box 1.1 What is Fynbos?

The Fynbos Biome[2] boundaries are not continuous and include most of the areas dominated by fynbos, renosterveld, and strandveld vegetation. The biome is found at the southwestern tip of South Africa hugging the Cape fold-belt mountains and the coastal plains from about 30°S in the northwest (Niewoudtville) to 27° in the east (Port Elizabeth). In the west, the rain falls largely in winter, while in the east the rain is less strongly seasonal. Fynbos is characterised by Cape reeds, heaths and proteas, and occurs on nutrient-poor soils. Renosterveld is dominated by aromatic, shrubby daisies, especially renosterbos and kapokbos, together with grasses. As a result of its association with more fertile soil, renosterveld has been largely destroyed for agriculture. Fynbos and renosterveld are both exceptionally rich in bulb species and are fire-driven systems. Strandveld is a coastal vegetation type found adjacent to the sea. It may contain fynbos, thicket and karoo communities where fire is less frequent. Although the boundaries of the biome are defined by its vegetation, the biome includes the whole range of biodiversity (plants, animals and microbes) and their interactions. In the arid interior valleys and to the north, the Fynbos Biome gives way to the Succulent Karoo Biome, which is also highly diverse. Fynbos is replaced by thicket in the east on richer, finer soils.

Over the decades, biologists have recognised the floristic distinctiveness of the fynbos region and have successively identified it as the Cape Floral Kingdom, the Cape Floristic Region, and more recently, as the Core Cape Floristic Sub-region (this last as a subset of the Greater Cape Floristic Region, which includes the Succulent Karoo Biome).[3,4] The Cape Floral Kingdom was defined by the large number of unique plant species found in the region. A remarkably high percentage of these species are endemic (68%), and it contains one fifth of all African plant species (over 9 300 species) in 0.6% of its area. The Cape Floristic Region concerns the flora in the southern African context. Although the Cape Floristic Region boundaries are defined by characteristic plant species, it is also a centre of diversity and endemism for many vertebrate and invertebrate groups.[5] It is consequently identified as one of the world's 34 biodiversity hotspots[iii] —those areas with large numbers of endemic species under severe threat due to habitat loss and other human activities.[6]

In recognition of the exceptional international significance of this region, the nomination of the Cape Floral Region as a "protected areas world heritage site" was accepted by the World Heritage Committee at their annual meeting in China in June 2004. This nomination included eight of the larger protected areas. An extension was accepted by the World Heritage Committee in July 2015, which increased the total area of the Cape Floral Region Protected Areas World Heritage Site (CFRPA) from 557 584 ha to 1 094 798 ha, comprising 163 land parcels. Additional protected areas, including declared Biosphere Reserves, private Mountain Catchment Areas and Marine Protected Areas, form a buffer of another 755 830 ha.[iv,7]

This region contains important mountain catchments,[v] which produce the water on which the region's economy depends; indeed, fynbos clad catchments comprise over 50% of the country's strategic water source areas.[8] In addition to supporting a rapidly growing tourism industry, many fynbos products are also harvested directly from the veld. Fynbos dependent industries include wildflowers, rooibos tea, honeybush tea, *Aloe ferox,* medicinal plants, wild figs and thatching material. Renosterveld is used for grazing while the flowers of the fynbos nourish bees and other pollinators, supporting many crops.

iii Hotspot: A biogeographic region that contains at least 1500 endemic vascular plants and has lost 70% of its original extent - these highly diverse and threatened areas are therefore the top global conservation priorities.

iv. Guy Palmer, former Scientific Manager Biodiversity for CapeNature and coordinator of World Heritage nomination (whc.unesco.org). Pers comm, 19 April 2018.

v. Strategic water source areas are mostly in the mountains and cover 8% of the country's surface area but produce 50% of its water. The water produced by these areas is particularly important to the Cape as the province is highly water stressed. According to projected reductions in precipitation caused by climate change, water is likely to be the most limiting factor for economic growth.

Building on a regional tradition of collaborative research, the Fynbos Biome Project was established in 1977 and held its first annual conference in 1979 (see timeline, appendix 2). Supported by substantial funding from the government's Cooperative Science Programme, it operated as an exceptionally productive multi-institutional research project until 1989. The collaborative, multidisciplinary approach it promoted proved so powerful that, on the closure of the externally funded research programme in 1989, the conservationists of the region resolved to continue with annual conferences and created a forum for the independent exchange of information. This commenced in 1990, and in 1992 this independent annual meeting was formally named the Fynbos Forum. The Fynbos Forum continues to support conservation in the region by maintaining communication and encouraging the development of local networks. Operating on a minimal budget, it is driven by passion and commitment. Over time, the Fynbos Forum has consciously increased the diversity of participants, reaching out to include more managers, policy-makers, land users, consultants, non-government organisations (NGOs), community-based organisations (CBOs) and private citizens to form a vibrant network supporting several communities of practice.[vi,9]

In 2018, the Fynbos Network will celebrate its 40th annual conference (see appendix 1 for details of locations and themes). Over this period, the institutional landscape has changed dramatically and conferences have varied from about 80 attendees in makeshift facilities in remote reserves to over 350 attendees in formal conference venues. The Fynbos Forum annual conferences have, however, consistently provided a space where diverse role-players can gather. By bringing together academics, policy makers, managers and private individuals committed to fynbos conservation, the Fynbos Forum creates opportunities to form alliances, and provides ongoing opportunities for communication and collaboration. It provides a strong platform for participatory learning, which builds a collective knowledge base. The Fynbos Forum seeks to support effective conservation in the region through sharing and upgrading the knowledge of participants, by agreeing on priorities for research and by motivating and developing alternatives for implementation.

> *The Fynbos Forum has acted as an important force maintaining regional communication, collaboration and momentum. (Brian Huntley)*[vii]

The members of the Fynbos Forum have been eager to tell their stories and to share what the learning network has meant to them and to regional conservation. In response to this enthusiasm, and in recognition of the nature of the network, the production of this book became a highly collaborative process with diverse inputs provided through numerous personal interviews, workshops and an electronic survey. In gathering material for the book, a great deal of scattered material was collated to ensure that it remains accessible for future research.[viii] The broad-ranging review process was supported by a formally appointed review committee. Table Mountain Fund (TMF), an important partner in much of the ground-breaking work in the

vi. A community of practice is a group of people who share a concern or a passion for something they do, and learn how to do it better as they interact regularly. All communities of practice are networks in the sense that they involve connections among members. However, not all networks are communities of practice: a community of practice entails a shared domain that becomes a source of identification. This identity creates a sense of commitment to the community as a whole, not just connections to a few individuals.

vii. Brian Huntley: Manager of the National Programme for Ecosystem Research that funded the Fynbos Biome Project, and later CEO of National Botanical Institute, overseeing its transition to the South African National Biodiversity Institute (SANBI).

viii. www.fynbosforum.org.za

region, provided invaluable financial support for the production of this book, which was supplemented by funds provided by the Fynbos Forum itself. The purpose of the book is to share the lessons learnt through both the Fynbos Biome Project and the Fynbos Forum that followed it: to explore the critical success factors that made this relatively small group such a potent generator of ideas and action, and to celebrate the champions who made it all happen. The production of the book also provides a space to reflect on the opportunities created by its recent registration as an independent non-profit company.

1.1 SUMMARY OF KEY ACHIEVEMENTS

The Fynbos Biome Project supported the integration of diverse research teams, building relationships and increasing knowledge. It popularised the name fynbos together with a better understanding of its evolution, diversity and management requirements. Subsequent to the closure of the Fynbos Biome Project in 1989, there was little funding, and consequently, the main function of the newly established Fynbos Forum was the maintenance of the regional network. The Fynbos Forum does little work itself, unlike the funded research undertaken as part of the Fynbos Biome Project. Nevertheless, as will be elaborated on in Chapter 7, the impact of the dialogue and collaboration facilitated by the Forum among managers, scientists, policy-makers, planners, landowners and land users has been profound. By building capacity for innovative research and encouraging the implementation of best practice, it is making a significant contribution to an improved understanding of fynbos, while supporting the implementation of sustainable approaches to conservation.

1.1.1 Sustaining a diverse regional network

The most important contribution of the Fynbos Forum has been sustaining and extending the diverse knowledge network initiated by the Fynbos Biome Project. The group of individuals who now attend the Fynbos Forum is diverse, drawn together by their concern for the flora and fauna they aim to protect. Membership is open and is based on the individual's commitment to attending the annual meetings. Participants come from a wide range of sectors, including conservation, agriculture, forestry and industry; their job descriptions vary from scientific research and teaching to management, planning and policy development; they come from the government, NGOs and the private sector; some own land and some work on the land; they range in age from students to retirees. What they have in common is a desire to "ensure the conservation and sustainability of fynbos ecosystems," and together they have built a strong sense of community and purpose. The increasingly transdisciplinary[ix,10] approach and commitment of its members have undoubtedly increased the impact of the Fynbos Forum.

ix. "Transdisciplinary" action can be defined as bringing participants from science, policy and practice together to co-evolve their understanding of issues, reconcile their diverse perspectives and to co-produce appropriate knowledge to serve a common purpose (Roux *et al.*, 2017 – see endnote 10 for full citation).

Dennis Laidler

A group of participants at the Fynbos Forum 2007
Back Row L to R: Augustine Morkel, Stacy Ann Michaels, Luzann Isaacs, —, Linden Rhoda, John Donaldson, —, Deshni Pillay, —, Tony Rebelo, Rosie Stanway, Ismail Ebrahim.
Front Row L to R: Zwai Peter, Lewine Walters, Tanya Layne, Paula Hathorn, Gigi Laidler, Phakamani Xaba, George Davis

An important characteristic of the Fynbos Forum in more recent years has been a broadening of its scope through an increased emphasis on socio-economic issues. Integrating the different perspectives brought by the widening array of participants has required active facilitation, and this has been spearheaded by a series of highly motivated chairs who have acted as effective bridges between science, policy and management. They have been supported by committees and members who have consistently engaged with priority issues. Together, this group of champions has made a significant contribution to fynbos conservation.

Internationally, there is growing recognition that bringing researchers, managers, users and policy-makers together to work on common problems results in the "co-production of knowledge,"[x,11] which is viewed as more legitimate, credible and relevant, and is consequently more likely to be applied.[12] The Fynbos Forum's practical experience over 40 years confirms this growing theoretical understanding of the power of producing knowledge collaboratively.

x. One definition of co-production is "where technical experts and other groups in society generate new knowledge and technologies together." https://en.wikipedia.org/wiki/Coproduction_(society), accessed 20 June 2017. Armitage *et al*. (2011) define knowledge co-production as *"*the collaborative process of bringing a plurality of knowledge sources and types together to address a defined problem and build an integrated or systems-oriented understanding of that problem*"*(see endnote 11 for full citation).

The Fynbos Forum meets each year in a different venue within the region as this allows each area to showcase their successes and challenges while also enabling local people to attend. The remote locations frequently selected for these meetings and the emphasis on after-hours socialising and field trips have been identified as critical ingredients in building this close network. People engage with each other face-to-face and establish relationships across and within organisations. This networking has established an invisible and somewhat bohemian college, creating a common understanding and shared memories that are the unseen but solid foundation to its achievements. In today's electronically connected but often fragmented society, this face-to-face contact and the resulting relationships are assets that are difficult to measure and therefore frequently undervalued.

The Fynbos Forum has not only built links within the region but has also facilitated interchange between the region and the international community—by actively hosting international visitors, it increases their exposure to local knowledge and diverse fynbos systems, and also creates opportunities for local members to interact with international experts.

1.1.2 Establishing the knowledge base

Fynbos Forum archives

Agulhas field trip – Fynbos Forum 2009

The regional collaboration supported by the Fynbos Network, has made a tremendous contribution towards an increased understanding of the unique fynbos ecosystems. The early work undertaken by the Fynbos Biome Project fostered an understanding of fynbos ecosystems, consolidating scattered knowledge and filling important gaps in understanding. In recent years, the Fynbos Forum has made a consistent contribution to the establishment of sound management guidelines that bridge the gap between scientific understanding and management. Interdisciplinary approaches have been promoted by the participation of scientists from different disciplines and by interaction with managers and those involved in policy development.

This interchange is important because the key to significant advance often lies in the interface between fields of expertise. The Fynbos Forum has always been one of the primary platforms for sharing advances in the understanding of fynbos ecology—creating a space in which the challenges of translating science into implementation can be addressed and the uptake of innovative concepts encouraged. This has been articulated through the development of a research strategy that identifies gaps in current knowledge.

1.1.3 Building capacity

The Fynbos Network has proved to be an effective platform for integrating and mentoring young people, providing them with opportunities to present their work, to make known their areas of interest and expertise and to receive practical feedback from more experienced practitioners. Importantly, it creates inspirational opportunities for new entrants to make an immediate contribution and to identify future career paths, thereby contributing to the development of future champions. As a local event, it is accessible, and for the past 30 years all submissions have been accepted—either as oral papers or in poster format—providing every new entrant with the opportunity for exposure and personal capacity building. Fynbos Forum Innovation Scholarships have provided direct support for the studies of 13 exceptional students between 2008 and 2017. Prior to this, the Fynbos Biome Project provided opportunities for young students funded by the Biome programmes to present their work. Students from different tertiary institutions enjoy the opportunity to mingle and learn from each other, renewing and expanding local networks. The Fynbos Network has always gone beyond socialising between students: consciously breaking down barriers between lecturers and students, senior managers and new interns. This accessibility has kick-started many new projects. Leaders regularly attend the Fynbos Forum to identify emerging young stars, and this informs recruitment.

The opportunity to be part of the leadership structure of the Fynbos Network has been important for many enthusiastic young conservationists. The increased gender and racial representivity of the Fynbos Forum in the course of the past four decades reflects, to some extent, the radical transformation in South African society between the 1970s, when South Africa was in the depths of the apartheid era, and our current democracy. There is, nevertheless, still a need to strive actively for better representivity, particularly in terms of participation in the formal programme.

1.1.4 Supporting fynbos conservation

The comprehensive representation of stakeholders has given the Fynbos Forum credibility and capacity, which have enabled it to influence policy development and implementation. The Fynbos Forum has also promoted citizen science and community involvement in conservation by providing exposure for important initiatives and by publicising and providing opportunities for involvement. Recruitment is enhanced by the circulation of information on vacancies and projects. Proposals endorsed or developed by the Fynbos Forum in partnership with local NGOs have helped to secure practical support and substantial funding for the implementation of innovative projects. While the periods of better funding certainly resulted in greater momentum, it was sometimes in the lowest periods, when the most powerful currency was a passionate commitment to a common vision, that the most was achieved (for example, section 3.6 describes the initiation of the Working for Water Programme).

Richard Cowling

Kouga Wilderness

1.2 OVERVIEW OF THIS BOOK

The following four chapters review the history of the Fynbos Biome Project and the Fynbos Forum. Chapter 2 provides an overview of the Fynbos Biome Project (late 1970s and 1980s). The next three chapters review the changes in the Fynbos Forum, with each chapter covering a separate decade (Chapter 3: 1990s; Chapter 4: 2000s and Chapter 5: 2010s). Each chapter includes a brief review of the regional context in that decade, followed by an in-depth discussion of the institutional drivers and a network analysis. The network analysis evaluates the overall profile of participants and highlights important contributions made by individuals. Each of the four history chapters also outlines key areas of work undertaken in that decade. This information about the changes during the four decades is brought together in Chapter 6, which provides an analysis of long-term trends in attendance, interaction and content. Chapter 7 describes the impacts of both the Fynbos Biome Project and the Fynbos Forum. It explores the role of the Fynbos Forum as an increasingly transdisciplinary regional learning network, describing how it supports the collaborative production of the knowledge that underpins regional conservation efforts. It highlights the importance of the partnerships and capacity that have been nurtured through the Fynbos Network. The chapter concludes with an overview of the contribution of the Fynbos Network to regional conservation and describes a number of initiatives that have used the convening power of the Fynbos Forum to strengthen their implementation.

Chapter 8 concludes by looking at the opportunities and challenges opening for the new non-profit company (NPC) within its present regional context. In particular, it reviews the need to improve opportunities for networking and knowledge co-production, highlighting the role of the Fynbos Forum in mobilizing support for conservation and the importance of complementing other forums. It discusses the potential for supporting the development of champions and creating learning opportunities for youth. It further emphasises the importance of improving communications and raising the organisation's profile. Lastly, it explores the potential for significant organisational strengthening to take advantage of the Fynbos Forum's recent registration as an independent NPC and the opportunities this new institutional structure provides for fundraising and mobilising resources.

Cliff & Suretha Dorse

Cleretum bellidiforme (Bokbaai vygies)

Tessa Oliver

Leucospermum cuneiforme burning in a fire near Bredasdorp.

CHAPTER 2: THE FYNBOS BIOME PROJECT 1976 – 1989

2.1 EARLY SCIENCE AND MANAGEMENT – STANDING ON THE SHOULDERS OF GIANTS

A regional tradition of collaborative science-based conservation management provided the foundation for the Fynbos Biome Project and later for the Fynbos Forum. The first major scientific review to address management concerns—*Preservation of the Vegetation of the South Western Cape*—was supervised by an inter-institutional committee led by Dr Christiaan Wicht in 1945 (see box 2.1).[13] Wicht, who was heading up the Forestry Department at Jonkershoek at the time, had recognised the importance of explaining the management implications of scientific reports to politicians and others who influenced decision making. He requested that the report be circulated to "prominent persons in appropriate Government departments" together with a letter asking them to "make recommendations to the proper quarters in these respects."[14]

Box 2.1: The 1945 Wicht Report – Influence and relevance today

This ground-breaking report was commissioned by the Royal Society of South Africa at the request of one of its fellows, Dr John Henkel, a retired and well-respected forester. It consolidated the inputs of knowledgeable foresters, conservationists and botanists, reflecting a growing understanding of the local environment. Both Christiaan Wicht[i] and John Henkel had a good grasp of scientific theory and its practical application through their work in the Forestry Department managing mountain catchments. The other members of the Committee were the botanists Professor Robert Adamson[ii] and Professor Robert Compton,[iii] and the entomologist Dr Sydney Skaife.[iv] They were part of a group of professional scientists and managers who worked within a local knowledge framework that had begun to mature separately from the European model. The development of defensible applied science was motivated by vigorous debate between scientists and managers promoting competing development options for water production, forestry, agriculture and conservation. Although, at the time, many botanists opposed the use of fire, the report reflected Henkel's view that fire was necessary. The report suggested that the real challenge was not how to exclude fire but rather how to manage it carefully—for example, by limiting grazing after fire to allow the veld to recover.

The Wicht Report was the first multidisciplinary attempt to address conservation issues facing the whole biome. Its integrative approach informed the development of science, policy and management and laid the groundwork for many current interventions and practices.[15] The questions that were posed by Henkel included how best to "address soil erosion, water extraction, alien tree plantations and inappropriate use of vegetation." In answering these questions, the committee drew on a variety of specialist fields, including botany, zoology, conservation, forestry, agriculture, aquatic biology, soil science and hydrology, integrating both theoretical and management expertise. To commemorate the 70th anniversary of the Wicht Report, an extensive review of ecological research and conservation management in the Cape Floristic Region was undertaken, covering the period 1945 to 2015.[16] This review recognised significant advances in the understanding of fynbos systems (including the role of fire and the impact of alien plants) and how to protect them through planning and the creation of protected areas. It highlighted the establishment of programmes targeting red data species and sustainable harvesting. It raised the concern that despite efforts to control invaders, the region's flora are nevertheless still severely threatened by alien plants, inappropriate fire regimes and by large-scale land transformation, all of which are exacerbated by climate change.

i. Wicht was Head of Research at the Jonkershoek Forestry station at the time of writing the report. He became Chief of Forest Research in 1947 (based in Pretoria) and in 1950 he became Professor of Silviculture at Stellenbosch University.

ii. Adamson was Professor of Botany at the University of Cape Town and was elected President of the Royal Society of South Africa in 1948.

iii. Compton was Director of the National Botanical Gardens at Kirstenbosch.

iv. Skaife was head of the Fisheries Development Corporation and founder of the Wildlife and Environment Society of South Africa.

Despite several institutional changes, state forestry continued with applied research on the issues raised in the 1945 report—initially under Christiaan Wicht and later under Fred Kruger. Their catchment-based experiments and observations conducted at Jonkershoek and other forestry research stations substantiated the recognition of invasive alien plants as "a green cancer" that destroyed the water resources and natural vegetation of the region.[v] As a result of this early awareness, the Western Cape Region has long been in the forefront of the fight against invasive alien plants both locally and internationally.[17,18]

This sustained endeavour by Forestry formed the foundation for later work in this field. The integrative and applied approach promoted by Christiaan Wicht influenced those who worked under him in Forestry and later at Stellenbosch University, such as Fred Kruger and Roy Siegfried, both of whom would later be involved in the initiation of the Fynbos Biome Project. Roy Siegfried suggests that one of Wicht's most important contributions was to apply "an interdisciplinary and scientifically rigorous experimental evaluation to proposed models for the management of fire and invasive alien plants."[vi]

2.2 CONTEXT DURING THE 1970s AND 1980s

2.2.1 Political repression and sanctions

The Fynbos Biome Project's emphasis on collaboration came at a time when the country was experiencing high levels of political turbulence and escalating resistance towards apartheid. On 16 June 1976, just days after the scientists' first formal meeting to discuss the initiation of the Fynbos Biome Project, thousands of black students marched in Soweto. The news of the violent repression and ongoing protests was broadcast across the world and led to an intensification of boycotts aimed at isolating the country in order to force change.[19] Widespread sanctions gave rise to increasing economic constraints within the country.[20] In addition, an academic boycott led to a decrease in the recruitment of international experts to take up appointments at local universities, and there was a significant exodus of capacity from the country.[21] In addition, South Africa was expelled from several international organisations, and its participation in many international initiatives became limited.[22]

Within South Africa at this time, there were draconian controls on education and association. An intentionally inferior education for black citizens meant that the majority of students eligible for university were white, while some courses restricted the number of female students.[23] Universities were segregated, and "white" universities were further divided along language lines with the Afrikaans universities becoming increasingly isolated from international discourse and sponsorship.[24] English-speaking universities tried to resist these restraints and continued to place strong emphasis on maintaining global links and a presence in global literature and conferences.[25]

As a result of political pressure, it became difficult to publish in certain international journals. In response, additional new South African journals were established, many of which published articles in Afrikaans. Although academic boycotts were in place,[26] the International Council for Scientific Unions (ICSU), founded

v. Roy Siegfried, pers comm, interview 1 June 2016.
vi. Ibid.

in 1931, supported the right of scientists to collaborate, and stipulated that no country could prevent scientists from travelling for the purposes of conducting science.[vii] Other institutions, such as the Oxford Forestry Institute and the International Union of Forest Researchers (IUFRO), also opposed any political interference and provided important links for the otherwise isolated South African scientists.[viii]

2.2.2 Locally important institutions

The following section provides a brief overview of the core institutions that were brought together in the Fynbos Biome Project. The Department of Forestry was one of the few institutions that actively integrated fynbos research into its management structures (See box 2.2).

Box 2.2: The Department of Forestry – Custodians of the catchments

In the 1970s, most mountainous areas in South Africa were managed by the Department of Forestry as catchment areas—this included large areas under natural vegetation. The majority of these mountainous areas were already State Forests, while, in 1970, those in private hands were declared Mountain Catchment Areas.[ix] Legislation restricted activities in these catchment areas in order to protect water sources. Forestry developed capacity for extension work in order to support sound management on the privately-owned components of these catchments.[x] A large team of experienced conservation foresters managed the natural vegetation in these mountain catchments.[27] They worked closely with well-resourced research stations that undertook applied ecological and hydrological research, addressing important management issues such as the impact of fire and invasive alien plants.[28] Regular management, research and planning (MAREP) meetings within the department promoted the uptake of the research results into policy and practice and identified key challenges for investigation.

In the early 1970s, the South African Forestry Research Institute (SAFRI) initiated a formal fynbos ecology research programme under the leadership of Fred Kruger. The objective was to provide scientific support for the development of management guidelines for the fynbos-clad mountain catchments that fell under the authority of the Department.[29] This work by SAFRI contributed to a growing understanding of the functioning of fynbos ecosystems; this included gathering evidence of the importance of fire in regeneration and the negative impact of invasive alien vegetation.[30,31,32]

In the 1970s, the Cape Provincial Department of Nature and Environmental Conservation (the precursor to CapeNature) was supported by a research arm that undertook research and monitoring programmes on the reserves under its jurisdiction, most of which contained fynbos. In contrast, the National Parks Board research was largely focused on the management of animal species in the savanna ecosystems that made up the majority of its estate. The National Department of Agriculture was supported by several research institutes, including the Botanical Research Institute (BRI), which had a regional office in Stellenbosch that focused on fynbos research—undertaking both botanical surveys and taxonomy supported by its own herbarium; the

vii. Fred Kruger, pers comm, interview 29 February 2016. ISCU provided the procedures and modalities for exchange—making it legitimate for leading scientists to create opportunities for collaboration.
viii. Ibid.
ix. Mountain Catchment Areas Act 63, of 1970.
x. Guy Palmer, pers comm, interview 23 June 2016.

Plant Protection Research Institute (PPRI), which developed bio-control for invasive alien species; the Vegetable and Ornamental Plant Research Institute (VOPRI), which included a Fynbos Research Unit providing horticultural support for the cultivation of fynbos flowers; and the Soil and Irrigation Research Institute (SIRI), which undertook research on soils, water (in the agricultural context) and climate.[xi] Management advice based on this research was disseminated among farmers by a strong extension branch that provided support for sustainable management on private land.

Greg Forsyth

Brian van Wilgen, surveying a vegetation plot in 1979 near the Langrivier, which formed part of the Department of Forestry's research programme in Jonkershoek.

A Cape Conservation Committee comprising local conservation NGOs was established to provide a coordinated voice and strategy on current issues—this was chaired by Tony Hall (Bolus Herbarium at the University of Cape Town), who was very involved in rare plant conservation. The Botanical Society of South Africa was an active member, supporting the National Botanical Gardens. It also published the first popular guide to fynbos plants in 1983, *Kaapse Skiereiland* by Mary Maytham Kidd.[33]

Members of the South African Protea Producers Association (SAPPEX), such as Walter Middelmann, began to experiment with different approaches to managing fire and invasive alien plants in the mountainous areas to support the sustainable harvesting of wildflowers. In the lowlands, a few farmers conserved unploughed remnants of natural vegetation in order to provide flowers for wildflower shows. Some of these areas were included in a Department of Environmental Affairs Natural Heritage Site Programme.[xii]

Although the five universities in the Cape had established a substantial body of expertise, the majority of the botanical research undertaken in the Cape universities in the 1970s was qualitative, taxonomic or phytosociological, with little focus on its management implications. Until that time, almost all university textbooks were produced overseas and were based on northern hemisphere biological systems.[xiii] International journals took months to reach South Africa. The application of a more rigorous hypothetico-deductive approach to ecological problems, which was prevalent internationally, had not yet taken hold locally. [xiv]

xi. SIRI was the forerunner of the Institute for Soil, Climate and Water (ISCW), which was formed in 1992 when the Department of Agricultural Development became the parastatal Agricultural Research Council (ARC).
xii. Eugene Moll, pers comm, interview 25 May 2017.
xiii. Shirley Pierce, pers comm, interview 22 April 2016; Paul Britton, pers comm, interview 11 October 2016.
xiv. Roy Siegfried, pers comm, interview 1 June 2016.

2.2.3 The creation of large integrated research programmes

Internationally, the increasing environmental awareness of the 1960s activated a growing scientific emphasis on developing an integrated understanding of the environment. This gained traction through the initiation of several large programmes. The International Hydrological Decade operated from 1965 to 1974 and aimed to take stock of the earth's dwindling water resources in order to manage them more sustainably.[34] In 1969, ICSU established the Scientific Committee on Problems of the Environment (SCOPE), assembling interdisciplinary scientific teams to address major global environmental problems. South Africa would play a significant role in this programme and several of its contributions would be coordinated by the Fynbos Biome Project.

The International Biological Programme ran from 1964 to 1974 and focused on developing an understanding of the structure and functioning of ecosystems. Its goal was to explore "The Biological Basis of Productivity and Human Welfare" by determining the effect of changes in the natural environment on biological communities and the potential for the development of natural resources for human benefit.[xv] Big science (in terms of large budgets, large teams and expensive equipment) was applied to the problems of ecosystem productivity.[35]

South Africa's participation in the International Biological Programme was limited, but it did have important local impacts. The concept of large integrative scientific research programmes was taken up by Graham Noble, the leader of the Council for Scientific and Industrial Research (CSIR). In 1972, he initiated the development of the Cooperative Scientific Programmes (CSPs), which included the National Programme for Ecosystem Research (NPER; see box 2.3) as one of the primary mechanisms for distributing research funding. The objective of the CSPs was "to identify problems peculiar to South Africa which, because of their magnitude and complexity, required the co-ordinated effort of a number of different organisations in planned research programmes."[36] The CSPs therefore supported collaborative programmes aimed at addressing problems of national importance through multi-disciplinary research.[xvi,37] In 1984, the CSPs and the CSIR research grants division were amalgamated to form the Foundation for Research Development (FRD).[38] Some of the CSPs, such as the NPER, continued with increased support[xvii] after the amalgamation but were terminated in 1989 as the national model for funding research changed (see Chapter 3).

xv. This concept would be revisited in the Millennium Ecosystem Assessment and in later work that emphasised ecosystem services.

xvi. In the 1970s and early 1980s, funding for research was provided through the University Grants Programme. This was the predecessor of the FRD, which was established in 1984 to fund research. In 1990, the FRD became autonomous under the Research Development Act no 75 of 1990 and was housed within the CSIR. In 1999, together with some programmes of the Human Sciences Research Council (HSRC), it was expanded to form the National Research Foundation (NRF) (Huntley, pers comm, supplementing Luruli and Mouton, endnote no 37).

xvii. Brian Huntley, pers comm, email 7 April 2018.

Brian Huntley

Picture of NPER team at 1985 workshop at Houwhoek Inn.
Back row L to R: —, —, Johan Breytenbach, Francesco di Castri, —, Mike Mentis, Jared Diamond, Tim O'Connor, —, Peter Frost, Mary Seely, Craig Hilton-Taylor, Ian Macdonald, Salomon Joubert, —, Norman Owen-Smith, Valdon Smith, Tony Ferrar, —
Front row L to R: Brian Huntley, Bob Scholes, —, Margie Jarman, Sue Frost, Tony Rebelo, Coert Geldenhuys, Eugene Moll, Roy Siegfried, Jeremy Midgley, Bruce McKenzie, Richard Cowling, Brian van Wilgen, Fred Kruger, Tisha Greyling

Stephen Cousins

Tulbagh mountains and valley

Box 2.3: The National Programme for Ecosystem Research

The objective of the NPER was to "develop a predictive understanding of the structure and functioning of South African ecosystems."[39] This South African research initiative involved 500 scientists working together on 208 tasks, within 22 collaborative projects. Operating from 1975 to 1989, the NPER was well resourced, distributing over R9 million to Inland Water Ecosystems, Terrestrial Ecosystems and Nature Conservation research programmes. By 1985, these programmes had produced 333 papers, 64 reports and 55 theses, and had contributed to significant advances in science.[40] The Terrestrial Ecosystems component, managed by Brian Huntley, supported five vegetation-based research groups, namely Savanna, Grasslands, Karoo, Forest and Fynbos. The Fynbos Biome Project received R1.289 million (14% of the budget).

This cooperative funding model was established with the rationale that a new integrative approach was needed to address the big problems such as "fires, soil erosion, the management of invasive alien plants and the increasing rarity of indigenous plants and animals." It emphasised the development of home-grown solutions, based on an understanding of local systems, rather than simply following approaches developed in the northern hemisphere. There was a strong emphasis on understanding system level responses to stress and disturbance.

The role of the NPER was to coordinate research, to facilitate the transfer of information to decision-makers and to support international collaboration. It focused on areas that required new multi- or interdisciplinary approaches and the collaboration of researchers from a number of different organisations. Its projects eventually involved thirteen universities, four national and five provincial government departments, seven statutory institutes, seven museums, three voluntary organisations and many overseas contributors. It was far ahead of its time in terms of supporting cross-sectoral collaboration, involving many in integrated and innovative thinking. The overarching questions pursued within each project allowed many to make significant contributions, bringing in both managers and academics from a wide range of institutions. Participation in this integrative work built significant regional capacity and established a common understanding of local systems. While the importance of this broad, integrative capacity and sense of community across institutions is now recognised as critical, it was difficult to measure and it consequently fell away in the 1990s when preference was given to the support of individual excellence.

The NPER internal reports became a very important regional resource making research relevant to management accessible. They were greatly valued by those active in conservation, despite criticism from some academics regarding the absence of external peer review. A review undertaken in 1985 by Brian Huntley highlighted the NPER success in communicating scientific information, but acknowledged that transferring information to decision-makers and influencing policy development was often challenging. It did note that the most effective tool for influencing implementation was to promote the direct involvement of individuals (the decision-makers) in interactive forums—an approach that is still encouraged in more recent research.[41,42]

Cliff & Suretha Dorse

Erica fascicularis, Kogelberg

2.3 DRIVERS OF THE FYNBOS BIOME PROJECT

2.3.1 Initiation of the Fynbos Biome Project

Although there were pockets of excellence, such as the Wicht report in 1945 and work done by the Forestry Department in the early 1970s (see box 2.2), the different disciplines and institutions described generally worked in silos—in particular there was little interaction between university academics and government departments. In response, a group of scientists established an informal network, meeting in each other's homes (in Stellenbosch and Cape Town) for several years in the early 70s to discuss interdisciplinary ecological research on fynbos. This group included Rudi Bigalke (Stellenbosch University), Don Bands and Fred Kruger (Department of Forestry), Eugene Moll (University of Cape Town), Hugh Taylor (Stellenbosch Herbarium, Department of Agriculture), Roy Siegfried (FitzPatrick Institute for African Ornithology, University of Cape Town) and Gideon Louw (initially Stellenbosch University and later University of Cape Town).

On 10th June 1976, this informal group, now comprising ten scientists and managers, convened at the University of Cape Town to discuss the potential for developing a formal collaborative research project for the fynbos region. This initial task group included Conservation and Forestry Department representatives who were involved in direct management as well as members of local universities and research

organisations.[xviii] The purpose of the meeting was to discuss "the feasibility and desirability of a cooperative research project in the Fynbos Biome" and to explore mechanisms by which such a project could be coordinated, funded and guided. It was agreed that the obvious home for such a project was the NPER. Accordingly, a formal proposal was submitted to the CSIR for consideration for funding from the NPER, which was subsequently approved.[43]

The following year, on the 17th of March 1977, the inaugural meeting of the steering committee for the Fynbos Biome Project was held at Stellenbosch University.[44] The objective of the newly formed Fynbos Biome Project was "to provide sound scientific knowledge of the structure and functioning of the ecosystems as a basis for the conservation and management of the Fynbos Biome." The research programme started with the collation of baseline data. This was used to inform a series of comparative studies of ecosystem structure and functioning that examined ecosystem processes, the influences of fire, invasive plants and ecophysiology, and included gradient studies of community structures as well as interactions between species. The team went on to explore the implications of their findings for habitat conservation and catchment management as well as for the wildflower industry.[45,46]

2.3.2 Critical ingredients

Aligning funding and effort

The funding allocated for the first year's operations was R25 000. This was spent on collating available information and on planning—including a reconnaissance trip to identify field sites. Fieldwork got underway at Jonkershoek in 1978, followed a year later by the initiation of work at the Pella field site. The initial plan was for the project to run for 10 years—with completion in 1986. However, additional funding was provided, extending the project until 1989, to allow important studies to be completed.

Over R1 million[xix] was provided by the FRD over this 13-year period, representing generous funding for those times. In addition to direct support by the FRD to academic institutions, which was channelled through the NPER, a great deal of additional work was funded by aligning the internal budgets of participating management organisations with agreed priorities. This approach of aligning budgets with common goals would again be applied with great effect in the 1990s through the Cape Action for People and Environment (CAPE; see Chapter 4).

xviii. The group included Prof RC Bigalke (Stellenbosch University), Dr D Edwards (Botanical Research Institute), Dr N Fairall (Department of Nature Conservation and the Environment), Mr BJ Huntley (CSIR), Mr F Kruger (Department of Forestry), Prof GN Louw (University of Cape Town), Dr EJ Moll (University of Cape Town), Dr RG Nobel (CSIR), Prof WR Siegfried (University of Cape Town) and Mr HC Taylor (Botanical Research Institute of the Department of Agriculture).

xix. By 1985, R1.289 million had been provided (Huntley, 1987, see endnote 88 for full citation).

Brian Huntley

Early visit by NPES[xx] to Swartboschkloof study site.
L to R: Jan de Wit, David McDonald, —, Eugene Moll, —, Fred Kruger, —, Richard Cowling, Pine Pienaar

Forming a diverse and motivated team

A wide variety of organisations participated in the Fynbos Biome Project, including seven universities: the Universities of Cape Town, Western Cape, Stellenbosch, Port Elizabeth, Transkei, Natal and Pretoria;[xxi] four government departments: the Cape Department of Nature and Environmental Conservation,[xxii] and the Departments of Forestry, Water Affairs and Agriculture; three statutory councils, which included several units of the Agricultural Research Council; the South African Museum; the Bolus, the Compton and Stellenbosch herbaria; the Cape Town City Council; SAPPEX; ESKOM and various private individuals.[xxiii] In addition to providing financial support, the FRD acted as coordinator and provided a secretariat, facilitating the involvement of all parties.

xx. National Programme for Environmental Science (NPES), an umbrella programme under which the Fynbos Biome Project fell (Huntley, 1987, see endnote 88 for full citation).

xxi. The University of Port Elizabeth was renamed the Nelson Mandela Metropolitan University (NMMU) when it merged with the Saasveld Forestry College and the Port Elizabeth Technicon in 2005. It was later renamed the Nelson Mandela University (NMU). The University of Transkei merged with the Border Technicon to become the Walter Sisulu University.

xxii. After the transition to democracy, the Cape Department of Environment and Nature Conservation was divided into separate agencies in the three new provinces.

xxiii. The herbaria provided identification for the phytosociological work but were not as closely integrated with the Fynbos Biome Project.

Although the majority of participants were academics, the practical expertise of managers such as Rory Allardice, Don Bands, Derek Clark, Greville Ruddock, Chris Martens, Roelof Andrag, Angus Wilson, John Fenn, Pierre Combrink, Tierck Hoekstra, Johan Neethling, Terry Newby, SW van der Merwe, Ivan Donian and Fanie Bekker made a critical contribution to the debate. This group also gave practical assistance with the field testing of important questions, such as appropriate burning regimes. Several landowners, including the Bell, Andrag, Duckett, Middelmann and Van Breda families, were early champions of conservation and provided valuable insights as well as access to field sites. Importantly, the project not only extended across different organisations but also included representatives from a wide variety of disciplines, thereby bringing critical diversity to the research and discussions. Participants included specialists in the abiotic environment (climate, soil science, geology and geography), palaeobiology and historical biogeography, adaptive physiology and behaviour, ecology (including reproductive ecology, population dynamics, species interactions, community dynamics, seed dynamics, mycorrhiza, pollination), system processes (fire, nutrient cycling, energy dynamics), taxonomy, invasive species, hydrology, fresh water biology and the sustainable use of wildflowers.

The Fynbos Biome Project benefited tremendously from the support of dedicated technical assistants, particularly from the well-resourced Forestry Department, who facilitated the gathering and analysis of substantial datasets. These included Mina Anthony, Greg Forsyth, Allan Lamb, David McKelly, Adrian Simmers, Reney Robyntjies, Gregory Bailey, Mike Viviers, Dave Pepler, Kevin Higgens and Jan Vlok. Lynne Carelse, Godfrey Moses and Eric Prinsloo were involved in the fynbos hydrology team.

Establishing shared field sites

A key feature of the NPER was the establishment of long-term research sites used by multiple specialist teams. Current theory on the creation of successful multidisciplinary teams emphasises the value of common research sites in which different sectors can be integrated; this approach worked well for the Fynbos Biome Project. The project consciously chose both upland and lowland sites to provide a better understanding of different systems.

Odette Curtis

Bontebok (*Damaliscus pygargus*)

Jonkershoek had been established by the Department of Forestry under Wicht in 1935 as a series of catchment experiments to test the impact of pine plantations on stream flow. The multiple gauged catchments consequently had long-term records stretching back to 1940, which provided invaluable baseline data. This meant that the infrastructure already existed for the ongoing evaluation of hydrological changes in different catchments, facilitating the comparison of different treatments.[xxiv,47] In addition, as Wicht had in mind when he chose the site originally, the proximity of several research institutions, based in Stellenbosch and Cape Town, strengthened the pool of available researchers.[48] A number of students, supervisors, managers and field workers lived in a small village in the Jonkershoek valley.

Greg Forsyth

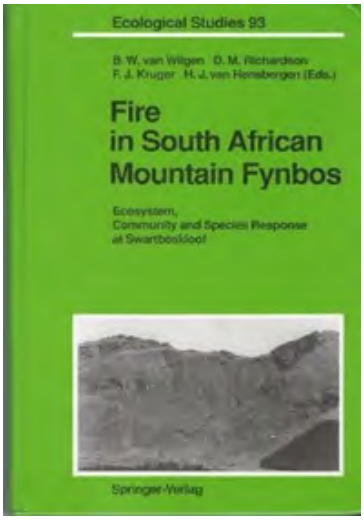
Fred Kruger with the first stream-gauging weir built in 1937 on the Bosboukloof sub-catchment to monitor stream flow as part of the Jonkershoek monitoring programme.

In 1976, the Department of Forestry established a new research programme in the area and it made sense for the Fynbos Biome Project to align itself with this substantial body of work. The Swartboschkloof sub-catchment was selected by the Fynbos Biome Project for detailed field trials to evaluate the impact of planned burns on the hydrology, soils and biota. In addition to a core team from the Department of Forestry, who had a long record of work in the catchment, new researchers from the Universities of Cape Town, the Western Cape and Stellenbosch and from the National Botanical Institute were brought on board. Managers from the Forestry Department and the Department of Nature Conservation also made important contributions. The diversity of the research team resulted in a broadening of the scope of the research to include an evaluation of the impact of fire on mammals, freshwater systems, soil microfauna, nutrient cycling and flower harvesting.

Greg Forsyth

Adrian Simmers at the Swartboschkloof weather station after the 2009 fire.

xxiv. There had been a gauged catchment since 1935 providing data on climate, hydrology and the biota. This was well documented, and there was a supportive reference herbarium on site.



After extensive baseline studies had been completed, a controlled burn was undertaken in 1987. Brian van Wilgen of the Department of Forestry led the Swartboschkloof study group,[xxv] which produced a special volume on the role and impact of fire in mountain fynbos ecosystems, based largely on the work done at Swartboschkloof. In 2018, long-term monitoring of hydrology in the Jonkershoek Valley continues to be supported by the South African Earth Observation Network (SAEON), thereby maintaining the longest continuous multiple catchment monitoring experiment in the world.[xxvi]

Saasveld was another important forestry research station that was already well established when the Fynbos Biome Project was initiated. Research here focused on the interface between fynbos and forest and included work on the dynamics of fynbos islands in the forest. Initially, this site was more involved with the NPER Forest Biome Project, but William Bond, Jeremy Midgley, Jan Vlok and Coert Geldenhuys also became involved in the Fynbos Biome Project in the 1980s, providing valuable new insights. This campus, which trained foresters, was subsequently amalgamated into the Nelson Mandela University and continues to teach nature conservation as well as other disciplines.

A new research site was established by the University of Cape Town at **Pella,** near Mamre, in the coastal fynbos (later known as sand plain fynbos). This was leased from local farmers (the Andrag family) and was used by many students under the supervision of Eugene Moll, Derek Mitchell and Roy Siegfried. The primary focus of the research here was on nutrient cycling and ecophysiology. Charlie Boucher of the Botanical Research Unit undertook the vegetation survey and Charles Musil also worked there. Basic infrastructure was established to support the work of a number of students, including Nicky Allsopp, Pat Holmes, Francois van der Heyden, Gary Brown, Frank Coley, Sharon Jongens, Robert Brown, Ed Witkowski and Willy Stock. The researchers undertook a successful burn, which provided important insights into the role of fire in lowland systems and highlighted the significance of the restricted nutrient availability in fynbos heathland systems.

The Pella research site, which supported many years of research, was finally secured for conservation by WWF in 2001. It now forms part of the Dassenberg Coastal Catchment Partnership,[xxvii] which is working towards conserving 25 000 ha of threatened coastal lowlands.

xxv. The Swartboschkloof Study group Included Brian van Wilgen, Dave Richardson, Fred Kruger, Bertie van Hensbergen, William Bond, Johan Fourie, Mike Frazer, Margie Jarman, Jan Lamprechts, Pat Manders, and Robert Prỳs-Jones.

xxvi. These datasets are recognised globally for their invaluable contribution to an understanding of the impact of vegetation on stream flow and have made significant contributions to the development of local policy frameworks, particularly those managing the impacts of invasive alien plants.

xxvii. City of Cape Town, CapeNature, WWF-SA, The Table Mountain Fund, the Wilderness Foundation, Cape West Coast Biosphere, SANParks and SANBI.

Eugene Moll

One of the first Pella site inspections.
L to R: Eugene Moll, —, Roy Siegfried, —, Brian Huntley, Owen Lewis, Fred Kruger, Margie Jarman, —, — (both behind), Graham Noble, —, —, Hugh Taylor and Don Bands

The University of the Western Cape established a research site in the campus nature reserve, the **Cape Flats Nature Reserve,** which conserves endangered Cape Flats Dune Strandveld. This work was overseen by Barrie Low and was built on a foundation of environmental education, urban and lowland nature conservation and indigenous horticulture. It provided an important impetus for the development of an awareness of the vulnerability and diversity of the lowlands. The focus of activity supported by the Fynbos Biome Project contributed to the subsequent development of an Environmental Education and Resources Unit. This site continues to be used by students of the University of the Western Cape for research and environmental education.

Structured meetings

The first annual meeting of the Fynbos Biome Project was held in 1979, by which time some initial work had been undertaken, including a literature review and some field work. The excerpt below is from the programme for that first meeting.

The Fynbos Biome Project has as one of its principal objectives the integration and coordination of ecological research within the biome. Formal coordination at an inter-organisational level is provided by the Steering Committee while informal contact between field workers is maintained through workshop meetings, seminars, etc. As the project develops, annual research meetings will be needed to bring all parties together for an exchange of progress reports, research plans and the review of programme goals.

COST OF ATTENDANCE

Teas, lunches and a social function will be provided for a nominal fee (R6, 00).

These annual meetings have been held every year since then, and continue to form an important basis for regional coordination and networking. Then, as now, presentations by young people undertaking

stimulating new research formed a central component of the meeting. In 1985, the meeting was particularly large as the results of the first phase of the project were presented to politicians, the FRD president and representatives of the broader scientific community.

One of the important characteristics of the NPER was its extensive use of workshops to synthesise and advance knowledge.[49] With the support of the experienced NPER administrative team, nearly 100 study group meetings, workshops, symposia and seminars were convened by the Fynbos Biome Project.[50] These meetings varied from informal one-day gatherings of less than ten specialists to large groups of people from different disciplines working together for extended periods of time. All formal workshops produced reports that were published by the NPER, serving as syntheses of information and often providing a springboard for further action.

Fifteen initial study groups were organised around each of the main themes of the Fynbos Biome Project and were often convened by younger researchers who benefitted from the leadership experience. The themes included: hydrology and hydrobiology (Jan Bosch); vegetation mapping and classification (Margie Jarman); soils, geomorphology and palaeoecology (Hilary Deacon); biogeography (Hilary Deacon and Eugene Moll); nutrient cycling (Derek Mitchell and Barrie Low); lowlands conservation priorities (Margie Jarman); fynbos systems ecology (Lisa Klaussner); commercial wildflower resources (George Davis); invasive biota (Fred Kruger and Ian MacDonald); community ecology—led by Johan Breytenbach, this included four subgroups: competition (Francis Pressenger), seed biology (Shirley Pierce), pollination biology (Tony Rebelo), fire ecology (Brian van Wilgen)—and finally, the fynbos model (Lisa Klaussner, Margie Jarman and later, the Miller family). There were also study groups for each of the research sites.

Eugene Moll

An open-air Pella workshop: Margie Jarman talking (hat, skirt and sunnies) with Derek Mitchel, Willy Stock and others

Critical mass, mentorship and space to innovate

The research was loosely guided by broad themes and was allowed to evolve as understanding developed. This flexible approach provided scope for responding to new knowledge rather than being trapped by fixed frameworks. The original intention was for the final stage to focus on the development of complex integrative system models. Instead, the team developed an integrated ecological understanding of the system's response to the key drivers of nutrients and fire, with their implications for patterns of diversity and conservation management.

Retrospective analysis of the South African Cooperative Science Programme has highlighted the importance of having a critical mass of "idea generators" or thought leaders. It is suggested that if the number of leaders is too low there is a danger that the research will become either too narrow or too shallow.[51] The fynbos region was blessed with a significant number of leaders who interacted through the Fynbos Biome Project. Sometimes they reached their conclusions through robust argument, but consistently they expanded the horizons of knowledge and application. Some of the thought leaders were among the students and mid-career scientists who were given considerable scope to pursue new approaches because of the flat, non-hierarchical structure of the project and its flexible framework.

The support of young scientists was a critical part of the Fynbos Biome Project. Mentors would ask challenging questions and although the abrasive style of some of the academic leaders was intimidating, they were generally open to new approaches provided the underlying scientific logic was sound. There was an exciting group of at least 40 young master's and doctoral students who fed off each other's ideas and passion for the systems they were discovering, and even undergraduate students were encouraged to make a contribution. Involvement in the Fynbos Biome Project was an important stepping-stone for these young researchers, many of whom would later become leaders both locally and internationally. Others would become responsible for the management of important programmes in government or the NGO sector, or would make significant contributions within conservation agencies or as independent consultants.[xxviii]

Eugene Moll

Richard Cowling (left) and Bruce Campbell. Both worked on vegetation classification as part of the Fynbos Biome Project and went on to become leaders of the next generation.

xxviii. Students who were part of the Fynbos Biome Project included A Abrahams, Nicky Allsopp, Esteban Azorin, Lucia Bossi, D Britton, PJ Brown, SA Brown, Pascale Chesselet, Pat Coombes, John Donaldson, PB Drew, Dave Everard, M Fry, JP Glyphis, Paul Hardcastle, Philip Ivey, James Jackelman, Douglas Jeffrey, Sharon Jongens-Roberts, Darrell Killian, Lisa Klaussner, Henri Laurie, C Liengme, Michael Loos, Christo Marais, Clive McDowell, Penny Mustart, Francis Pressinger, C Ruiters, C Schlettwein, B Schloms, Jackie Sommerville, Allan van Coller, Adam West, K Willan, and M Wright.

2.4 LEADERSHIP AND COORDINATION

The steering committee met bi-annually, providing high-level guidance through its evaluation of proposals and progress. Members of the committee included representatives from Stellenbosch University, the University of Cape Town, the FRD, the provincial conservation departments and the Department of Agriculture. Rudi Bigalke (Stellenbosch University) was appointed as chairman of the steering committee of the newly established Fynbos Biome Project in 1977.

The diverse organisations involved in the project represented different perspectives, and considerable diplomacy was needed to create an appropriate environment for dialogue and the establishment of collaborative teams. This required the establishment of an open arena where ideas could be exchanged without hierarchical constraints of a social, academic or political nature. For those used to the highly structured and regulated South African society, such robust debate was a completely new approach. The creation of such a space required a skilled facilitator. Gideon Louw, who chaired the early meetings from 1978–1979, was bilingual and handled sensitivities around language with tact while maintaining the momentum and focus of the project. While English predominated, many of the presentations and abstracts were in Afrikaans. Douglas Hey of the provincial conservation agency chaired in 1980, and he was followed by Kobus Theron from Stellenbosch University, who chaired for four years from 1981 to 1984.

Some managers were initially concerned that the scientists would not allow them sufficient space to state their views, but gradually trust was established. Fred Kruger, as research leader in a large management organisation, played a critical role in this regard, enthusiastically bringing on board the Department of Forestry, and thereby fundamentally changing the composition and emphasis of the Fynbos Biome Project. The active engagement of Forestry encouraged other management institutions to participate.[xxix] Fred Kruger was chair of the steering committee from 1985 until the end of the Fynbos Biome Project.

Once the project was underway, Brian Huntley, who headed up the NPER within the FRD, played a vital role in bringing the diverse Fynbos Biome Project team together around a common purpose. He was also an important link between the programme and the international community. He was based in Pretoria so Margie Jarman, as the local coordinator of the Fynbos Biome Project, played a critical role. She encouraged the involvement of undergraduate students and was supported by a highly organised CSIR secretariat comprising Pam van Helsdingen in Cape Town and a substantial team in Pretoria, which included Tisha Greyling and later Marie Breitenbach. They all did vital work as the anchors for projects—organising workshops, preparing agendas, drafting minutes of steering committee meetings, keeping track of the researchers and project documents, and generally ensuring the smooth operation of this complex cooperative venture.

xxix. Brian Huntley, Manager of NPER, which funded the Fynbos Biome Project, pers comm, interview 15 October, 2015.

2.5 NETWORK ANALYSIS

2.5.1 Profile of organisations participating in the formal programme

Eugene Moll

Margie Jarman preparing a talk for a workshop at Pella.

A detailed network analysis was undertaken for each decade using presentations at the annual meetings as a proxy for productivity and collaborative relationships (for details of the approach used see appendix 3). The results discussed below cover the ten year period from 1979 to 1989 — a period which coincides with the operation of the Fynbos Biome Project under the NPER. The results of this analysis reflect the profile of the participants presenting at the formal annual conferences. It should be recognised that this approach over-emphasises the participation of academics and their relative importance in the network as they have a greater incentive to present papers (which are one of their key performance indicators). In contrast, the farmers and managers tend to contribute more during discussions and workshops. Although there are no attendance lists for this decade, interviewees have confirmed that the majority of attendees were researchers who presented their work.[xxx]

Half the presenters at the annual meetings were affiliated with the major universities of the Cape Province. The University of Cape Town (UCT) was by far the largest player in the 1980s, presenting 30% of the papers at the annual symposia between 1979 and 1989, with leadership from Roy Siegfried, Eugene Moll, Gideon Louw, Derek Mitchell and Owen Lewis, and engaging a range of departments within the university. Kobus Theron, Hilary Deacon, Rudi Bigalke and later, Bertie van Hensbergen represented Stellenbosch University (SU), which provided the next largest number (12%), while Bruce McKenzie led the University of the Western Cape (UWC), which produced 5% of papers. The University of Port Elizabeth (now NMU) produced 3% of the papers presented during this ten-year period (figure 2.1 below).

Management structures within national and provincial government, such as the chief directorates of Forestry and Nature Conservation, usually sent their scientific rather than their management staff to present papers at the annual meetings. The Department of Forestry, led by Fred Kruger, gave 8% of all presentations and was represented primarily by research staff stationed at Jonkershoek and Saasveld. The provincial conservation agency team, led by Douglas Hey and Neil Fairall, were also significant contributors to the programme, producing 6% of the papers through the involvement of individuals such as Chris Burgers, Kas Hamman, Guy Palmer and AnneLise Schutte-Vlok. Several of the Department of Agriculture's research

xxx. In support of this assertion, the total attendance numbers given by the FRD management is not much higher than the number derived from the programme.

institutes were involved—including the Plant Protection Research Institute and the Protea Research Unit of VOPRI—their scientists contributing 4% of the papers at the annual conferences. The Botanical Research Institute, under Hugh Taylor, made a particularly important contribution. The Departments of Environmental Affairs, Agriculture and Water were all represented by small numbers. Attendance at the annual conference was by invitation only, and the overwhelming majority were active participants in the Fynbos Biome Project (most of them receiving some research funding from the NPER). As a result, there was little participation by local government, NGOs or private individuals. Walter, Ruth and Maryke Middelmann were notable exceptions, regularly attending the Fynbos Biome annual conferences as well as several smaller meetings. Ruth had initiated the Middelmann engagement with the wildflower industry through her establishment of a nursery in the late 1950s.[52] Walter was the retired chair of the South African Wildflower Growers Association (SAWGRA), and as a long-term landowner brought a unique perspective on the practical realities of the on-the-ground management of wildflowers. Their daughter-in-law, Maryke, would continue to support the Fynbos Forum as chair of SAPPEX.

Cliff & Suretha Dorse

Cape Dwarf Chameleon *(Bradypodion pumilum*)

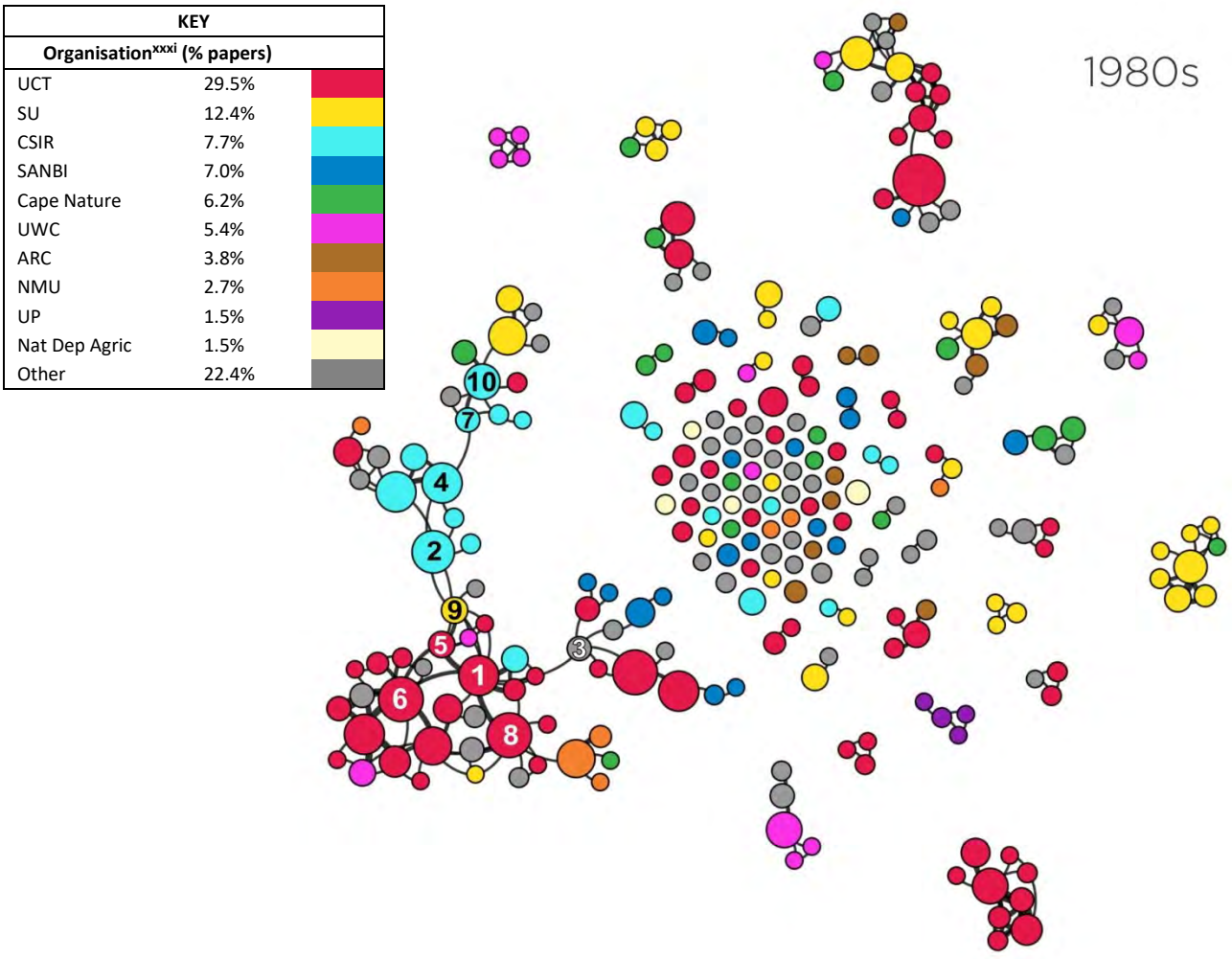


Figure 2.1: Network connectivity in the 1980s (1979–1989), indicating the size and density of the network as well as the relationships and the affiliations of those within it.

The network measure depicted by the ranks in this diagram is "betweenness centrality", which identifies individuals connecting otherwise remote areas of the graph. Each point represents a member of the network who presented papers during the annual meetings. The 10 individuals with the highest scores are labelled: 1 = Eugene Moll (UCT), 2 = David le Maitre (Forestry, CSIR), 3 = Liz Ashton (CCT), 4 = Brian van Wilgen (CSIR), 5 = Jackie Sommerville (UCT), 6 =Derek Mitchell (UCT), 7 = Kevin Higgens (UCT), 8 = Richard Cowling UCT, 9 = Charlie Boucher (Stellenbosch), 10 = Pat Manders (Forestry). Members who are close together worked on similar topics. The size of the point represents the number of connected papers the member presented and the shading of the points reflects the member's organisational affiliation. The key also provides an indication of the percentage of papers presented by the 10 organisations whose affiliates presented the most papers. Grey shading indicates a member who is affiliated to an organisation that is not in the top 10. Lines indicate co-production of papers. Percentage is the percentage of papers presented by an organisation at the annual conferences over ten years. The total number of authors in this decade was 257; they are connected by 245 links and the density of the network is 0.007. The giant component comprises 27% of all the authors, who are connected by 44% of the links.

xxxi. During this period, the CSIR was called the South African Forestry Research Institute, Cape Nature was called the Cape Department of Nature Conservation, SANBI was called the Botanical Research Unit of Agriculture. NMU was called the University of Port Elizabeth. Note that current organisation names are given in the key to facilitate comparison across the years. See Appendix 2 for details of organisational changes over time.

It is important to note that, even at this early stage of the development of the Fynbos Network, although there was some clustering within organisations there was already good interaction between organisations. In addition, academic organisations (red, orange, yellow, pink and purple) intermingled well with statutory bodies (blues) and management organisations (green and brown).

2.5.2 Individual contributions to the formal programme

In terms of individual contributions to the annual conferences, Derek Mitchell (UCT) co-authored the most papers and Tony Rebelo (UCT) presented the most papers. Eugene Moll (UCT), in addition to being one of the most prolific authors, played a critical role as a link between different disciplines (this is referred to as "betweenness centrality" and is the measure used in figure 2.1 above). This also reflects his important role as a mentor. He enjoyed taking students out into the field and inspired many to pursue a career in conservation. His passion for the fynbos was shared through the UCT 3rd year Field Ecology course and through his supervision of many of the Fynbos Biome Project master's and PhD students.

Although David Le Maitre (from the CSIR) was a young scientist, he also played an important role in the overall network connectivity, as did Liz Ashton (Cape Town City Council). Both of these people formed strong links between their organisations and the wider network (figure 2.1). Together with another young scientist, Richard Cowling (UCT), David Le Maitre ranked in the top 20 for all four networking measures listed in appendix 4. Both of them, together with Tony Rebelo, went on to be consistently in the "top 20" for four decades. Many of the experienced scientists involved in the Fynbos Biome Project leadership, such as Fred Kruger (CSIR), Owen Lewis (UCT), Roy Siegfried (UCT), Charlie Boucher (SU), Rudolph (Rudi) Bigalke (SU), Derek Mitchell (UCT) and Bertie van Hensbergen (SU) also had high networking scores in several categories. Other young scientists who played a significant role in the network were Ed Witkowski (UCT), Brian van Wilgen (SAFRI), Jackie Sommerville (UCT) and Pat Manders (SAFRI).[xxxii]

2.5.3 Transformation

As was typical of South African society at the time, the early meetings were dominated by white men, who comprised nearly 80% of all attendees. The dominance of men is also borne out by the network analyses based on the papers presented, which shows, not surprisingly, that the top scoring members of the Fynbos Biome Project network were all white men. Fewer than 20% of top network scores were held by women and only one was held by a black scientist, Francois van der Heyden. Women who had high networking scores included Margie Jarman, Liz Ashton, Jackie Sommerville, Shirley Pierce, Jenny Day, Jackie King, Xenia Kyriacou, Tisha Greyling and Lucia Bossi.

All Fynbos Biome Project committee members were white and for the first three years the only women on the committee had secretarial functions. Only three of the 45 people who served on the committee during this decade were women: Margie Jarman, Penny Mustart and Pat Holmes (Beeston). Pat Holmes and Penny

xxxii. Others who made significant contributions to the formal programme in the 1980s were Johan Breytenbach, Jenny Day, Jan Gilomee, Richard Knight, Michael Loos, Ian McDonald, Anton Scholtz, Willie Stock, Francois van der Heyden, Natasha Romoff, Shirley Pierce, Ken Mcgregor, Barrie Low, Peter Linder, Xenia Kyriacou, J Krauss, Jackie King, Margie Jarman, Kevin Higgens, Tisha Greyling, Lucia Bossi, Liz Ashton and Gary Brown (see appendix 4).

Mustart were later also on the Fynbos Forum committee, providing continuity as the organisation changed its structure.

This lack of representivity in terms of race and gender is not surprising as this was at the height of apartheid and women were also experiencing significant discrimination in science. Limited numbers of women and black people entered the sciences. Many found the combative style typical of male-dominated academia at the time unpleasant. Moreover, once trained, relatively few were able to secure permanent jobs, despite the increasing number of promising MSc and PhD female graduates. Due to a lack of opportunities and support, many left science.

> *When I look back, with the benefit of hindsight, I realise how startling the gender/employment schism was in the Fynbos Biome era. There had been a great increase in women post-graduates in ecology in that era, many with high promise, and yet very few were employed as researchers. In contrast, many men got taken into employment as researchers with honours qualifications, some of these flourished, others eventually disappeared. The women were graduating with Masters and PhDs. I do believe that many of those women would have gone on to contribute substantially if they'd been given an enabling employment environment. Of course, at this stage it was largely white men and women I am contrasting, black people didn't get a look in because of apartheid. (Nicky Allsopp)*[xxxiii]

2.6 IMPORTANT OUTCOMES

Interaction with international leaders had a significant influence on local science, bringing it to the cutting edge of Mediterranean ecology. Locally, there was a critical mass of innovative thinkers, who stimulated each other to develop new insights. Working in cross-disciplinary teams also exposed young scientists to new perspectives. For example, exposure to palaeoecology gave new understanding of the origins of biodiversity.

Eugene Moll

Jackie Sommerville and Willie Stock working hard at Pella.

2.6.1 Increased local awareness of the diversity and importance of the fynbos

When the Fynbos Biome Project was first established, Fred Kruger had to argue for the use of the local term *fynbos* as it was not one in general use—the terminology commonly used by scientists was the European name for heathland, *macchia*. Consequently, fynbos had to be defined for use in the initial documentation.[xxxiv] By the end of the Project, the name fynbos was well

xxxiii. Nicky Allsopp: Manager of the Fynbos Node of SAEON, pers comm, email 8 May, 2018.

xxxiv. Fynbos is the broad category of vegetation formations including mainly Acock's (1953) Veld Types 47 (coastal macchia), 69 (macchia) and 70 (false macchia). These comprise the sclerophyllous shrublands of the mountains of the Cape fold mountain belt, their foothills and the coastal forelands.

recognised in scientific literature and had been defined in a paper by Moll and Jarman.[53] Gradually, the term fynbos became recognised by the general public and it came into use in the general press and as a brand name for commodities.[54] Importantly, this was coupled with a growing awareness of the remarkable diversity of this natural heritage as well as its role in the production of high quality water from mountain catchment areas. There was a growing sense of local pride in this remarkable biome, which helped to motivate for its conservation.

2.6.2 Increased knowledge: Publications, academic theses and management recommendations

There was a substantial increase in technical capacity. Forty-two university-based projects were funded directly by the Fynbos Biome Project[55] and many more were funded by the participating organisations. It is difficult to determine exactly how many papers, reports and theses derived from the Fynbos Biome Project as the collaborative research programme continued to bear fruit many years after it was formally terminated in 1989. It is, however, estimated that there were ultimately over 20 theses and well over 100 publications arising from work that was aligned with the Fynbos Biome Project. Some of the most noteworthy publications are listed in Table 2.1 below. The dedicated FRD secretariat helped facilitate this high productivity by supporting the production of manuscripts and producing two in-house publications: the *South African National Scientific Programmes Reports* and the *Occasional Reports of the Ecosystem Programmes.*[xxxv,56]

Cliff & Suretha Dorse

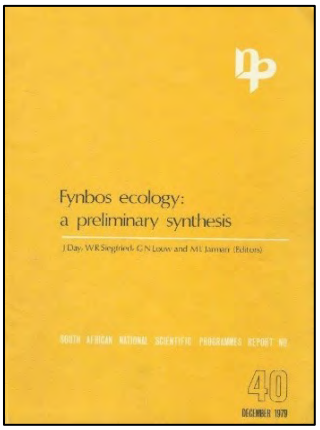
Syncarpha canescens

xxxv. http://researchspace.csir.co.za/dspace/.

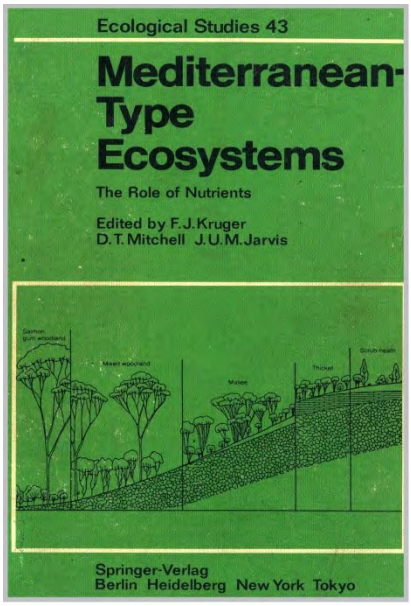
Table 2-1: *Important publications to which the Fynbos Biome Project contributed*

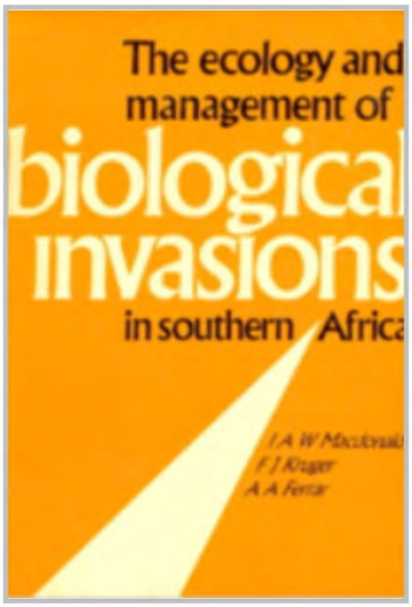
1978	A description of the Fynbos Biome Project	Kruger[57]
	Descriptions of fynbos plant communities	Taylor[58]
1979	A preliminary synthesis of fynbos ecology	Day, Siegfried, Louw and Jarman[59]
1981	Structural classification of vegetation in the Fynbos Biome	Campbell, Cowling, Bond and Kruger[60]
1983	Mineral nutrients in Mediterranean ecosystems	Day [61]
	Fynbos palaeoecology: A preliminary synthesis	Deacon, Hendy and Lambrechts[62]
	Mediterranean-type ecosystems: The role of nutrients. Outcome of MEDECON conference	Kruger, Mitchell and Jarvis[63]
1984	Fire in fynbos: Contribution to the SCOPE programme	Kruger and Bigalke[64]
	Alien organisms in terrestrial fynbos ecosystems	Macdonald and Jarman[65]
	Vegetation classification	Moll, Campbell, Cowling, Bossi, Jarman and Boucher[66]
1986	Conservation priorities in lowland fynbos	Jarman[67]
	Inputs into a review on the impacts of invasives in southern Africa: part of the SCOPE programme	Macdonald, Kruger and Ferrar [eds][68]
1987	Ten years of cooperative ecological research in South Africa	Huntley[69]
	Ecology and management of biological invasions in Southern Africa: SCOPE Report	Macdonald, Kruger and Ferrar[70]
	Synthesis of pollination biology in the Fynbos Biome	Rebelo[71]
1988	Description of the work at the Pella site	Jarman[72]
	Macro-invertebrate communities in an African stream	King and Day[73]
1989	Inputs into the SCOPE report on biological invasions	Drake *et al*.[74]
	Fynbos bibliography	Manders and Dicks[75]
1992	Fynbos, nutrients, fire and diversity	Cowling, 1992[76]
	Detailed documentation of effects of fire on fynbos and forests	van Wilgen *et al.*, 1992b[77]

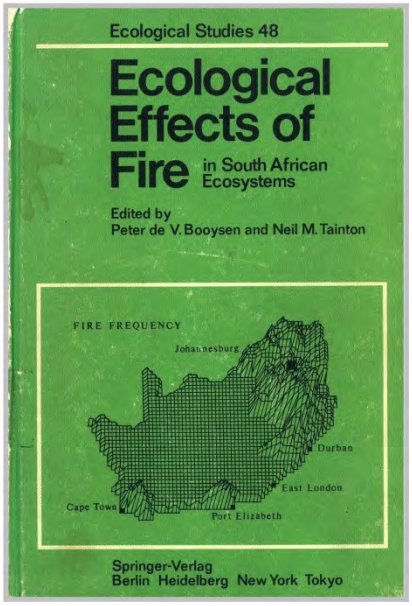
One of the first products of the Fynbos Biome Project was the 1979 collation of the widely dispersed knowledge on the Fynbos Biome arising from different scientific disciplines. This information was put together in an accessible baseline volume, *Fynbos Ecology: A Preliminary Synthesis,* by Jenny Day, Roy Siegfried, Gideon Louw and Margie Jarman.[78]

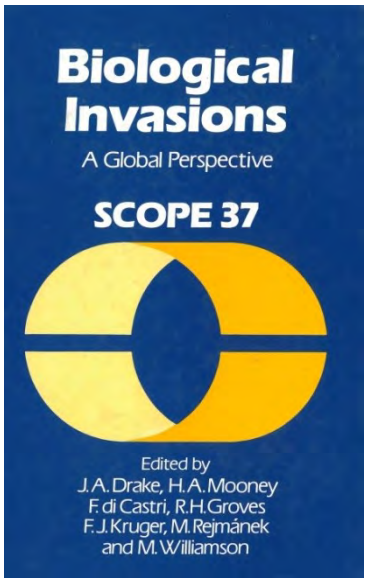


The work that followed this descriptive account looked at more complex system dynamics. It examined the interplay of winter rainfall, fire and nutrients and how South Africa compared with other Mediterranean terrestrial ecosystems. This was the 1983 book, *Mediterranean-type Ecosystems: The Role of Nutrients.*[79]







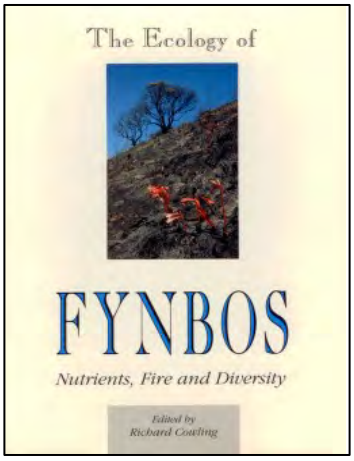


Other important areas of scientific development furthered the understanding of plant invasion ecology and how it was that different Mediterranean terrestrial ecosystems had distinct invasion characteristics. There was also a substantial body of work led by the Department of Forestry that deepened the understanding of the importance of fire regimes, especially for seed regenerating plants, leading to management recommendations on fire seasons and intervals. Internationally, significant contributions were made to the SCOPE programme on the impacts of biological invasions (1989[80]) and the ecological effects of fire (1984[81]).[xxxvi] These topics were also reflected in several local publications, including *The Ecology and Management of Biological Invasions in Southern Africa*[82] and the *Ecological Effects of Fire in South African Ecosystems*.[83] Progress was made in developing a more structured approach to conserving the highly diverse fynbos systems by identifying important lowland sites—this would contribute to a more systematic approach to reserve expansion in the next decade. In addition to work on the terrestrial systems, significant progress was made in understanding the aquatic communities.[84]

xxxvi. South Africa was well represented at the Hawaii synthesis symposium. Fred Kruger chaired the South African inputs, enjoying the support of a number of specialists, including Ian Macdonald and Dave Richardson.

> *The programme was the envy of the ecological world. We were privileged to work together in very multidisciplinary groups looking at particular systems. People discussed results, synthesising and reporting on them then and there – the material which emerged was very useful.*
>
> *When we waded into the rivers for the first time, no-one knew much about the invertebrates, but by the time we had finished we had a good basic understanding of how a couple of the rivers worked in terms of community structure, organic matter, their response to fire, and how they fitted into global paradigms. (Jenny Day)* [xxxvii]

Important workshops undertaken as part of the Fynbos Biome Project included: "Fire as an Ecological Factor in the Fynbos Biome" (1978); "The Structural Description and Classification of Fynbos Plant Communities" (1979); "The Application of Remote Sensing in Catchment Conservation Planning" (1980); "Invasive Aliens in the Terrestrial Ecosystems of the Fynbos Biome" (1984); "Nutrient Studies with the Fynbos Biome Project"(1980); "Phenology in the Karoo, Fynbos and Forest", and in 1988, a workshop on "Wildflower Resources," which included a field trip to Honingklip farm. In 1984, Margie Jarman identified priorities for the conservation of West Coast lowlands, and in 1986 she produced a report on conservation priorities for lowland fynbos. All these documents were products of the Fynbos Biome Project.[85]



After the close of the Fynbos Biome Project, Richard Cowling edited a comprehensive book, *The Ecology of Fynbos: Nutrients, Fire and Diversity,*[86] which summarised the significant advances in understanding that had been advanced through the collaborative approach of the Fynbos Biome Project. Twenty-two authors reviewed the advances in knowledge and outlined current understanding of the biogeography of the region. The book explored the influence of palaeoecology and current environmental conditions on the distribution of plant diversity and endemism, population dynamics and reproductive ecology. It also considered the threats to fynbos conservation from inappropriate fire regimes, invasive alien plants, the expansion of human (urban and agricultural) development and climate change.

2.6.3 Strengthening international networks

South Africans were very involved in two major products of SCOPE. The resulting international engagement and networks formed were of tremendous value to South African science, forming the foundations for ongoing collaboration.

The International Society of Mediterranean Ecologists (ISOMED) was another important vehicle used by the Fynbos Biome Project to support international engagement. Indeed, the third ISOMED conference was held in Stellenbosch, South Africa in 1980. It focused on nutrients and was convened as part of the Fynbos Biome

xxxvii. Jenny Day, UCT: Emeritus Associate Professor; UWC: Extraordinary Professor, pers comm email, 3 May 2018.

Project.[87] Fourteen internationally acclaimed scientists[xxxviii] joined with 116 local scientists. This interaction near the start of the Fynbos Biome Project provided significant impetus. By the time the fourth International Conference on Mediterranean Ecosystems (MEDECOS) was convened in Perth in 1984,[xxxix] a substantial contingent of South African scientists was able to present work done as part of the Fynbos Biome Project. As a result of his leadership of the Fynbos Biome Project, Fred Kruger was well placed to represent South Africa on the ISOMED organising committee. He convened the 1980 MEDECON meeting, which was organised by the Fynbos Biome Project on behalf of ISOMED:

> *There was an excitement about the scientific ideas being explored. Mediterranean ecosystems were seen as a natural laboratory for the idea of convergence between different regions. Intrigue arose from the comparative work being done between California and Chile… there was a curiosity …. It was all tied up with a common culture which included good wines…. You have the impersonal institutions, which will continue to exist and then you have the personal, and the fruit lies in the fact that people know each other. My professor would write me introductions to people who would never have seen me otherwise. (Fred Kruger)*[xl]

Eugene Moll

Francois van der Heyden (back turned) and
Frank Coley surveying a plot.

xxxviii. International attendees of the 1980 MEDICON conference included: RL Specht (University of Queensland, Australia); HA Nix (CSIRO Canberra, Australia); PA Goldblatt (Missouri Botanical Garden, USA); HA Mooney (Stanford, USA); PC Miller (San Diego State University, USA); RH Groves (CSIRO Canberra, Australia); PW Rundel (University of California at Irvine, USA); D Read (Sheffield, UK); ER Fuentes (University Catolica de Chile); RH Whittaker (Cornell University, USA); WE Westman (University of California at Los Angeles, USA); J Kummerow (San Diego University, USA); AE Newsome (CSIRO Canberra, Australia); P Caitling (CSIRO Canberra, Australia) and ML Cody (University of California at Los Angeles, USA).

xxxix. South Africans presenting in Australia in 1984 included William Bond, Charlie Boucher, Johann Breytenbach, Jan Vlok, Richard Cowling, Hilary Deacon, Barrie Low, Ian Macdonald, Derek Mitchell, Nicky Allsopp, Eugene Moll, Craig Hilton Taylor, Margie Jarman, Timm Hoffman, Sue Milton, Edward Witkowski and Gary Brown.

xl. Kruger, pers comm, interview 29 February 2016.

The Fynbos Biome Project benefitted greatly from the involvement of international reviewers through the support of the NPER. Brian Huntley,[xli] Fred Kruger and Roy Siegfried played critical roles in facilitating this interchange.[88] Hal Mooney,[xlii] a leading international biologist, described the role of Huntley and Kruger as follows:

> *Brian Huntley was one of the key organizers of the Third MEDECOS meeting in South Africa. He was interested in the International Biological Programme ecosystem level approach and was just setting up programs in the fynbos. I subsequently collaborated with him through the years on many biodiversity issues. Fred Kruger was particularly important in my subsequent career. I had met him in Australia while we both were on leave. I then visited his research site at Stellenbosch during the Third MEDECOS. It was at that time that we both decided to embark on a global program on invasive species sponsored by the Scientific Committee on Problems of the Environment (SCOPE). The program occupied us for many years and grew beyond our focus on Mediterranean type systems that was our original proposal. (Hal Mooney)*[89]

At a SCOPE meeting in the 1980s, Mooney remarked on the collaborative ethos of the Fynbos Biome Project, emphasising that the integration across management, science and the different disciplines that it had achieved did not exist anywhere else in the world at that time.[xliii]

The active participation of international experts who were invited to visit the Cape Floristic Region through the Fynbos Biome Project helped to move local science forward, providing new perspectives and guiding young researchers. Important visitors in the 1980s included: Harold (Hal) Mooney (Stanford, USA), Byron Lamont (WAIT[xliv,] Australia), Ray Specht (Queensland, Australia), Francesco di Castri (Centre d'Ecologie Functionnelle & Evolutive France), Peter Schei (SCOPE), Peter Raven (International Union of Biological Sciences, Director Missouri Botanical Garden), David Read (Sheffield, UK), John Pate (University of Western Australia), Paul Risser (University of Oklahoma), Martin Cody (University of California at Los Angeles [UCLA], USA), the Miller family (San Diego State University, USA), Gideon Orshan (Hebrew University of Jerusalem, Israel), Donald Piggot (University of Lancaster, United Kingdom), Dan Ersikavitch (University of Tel Aviv, Israel), Otto Solbrig (Grey Herbarium, Harvard, USA,), Peter Myerscough (University of Sydney, Australia), Hugh Gauch (Cornell, USA), Christopher Quinn (University of New South Wales, Australia), Herman Remmert (Phillips Universitat, Germany), Dieter von Willert (University of Munster, Germany), Paul Ehrlich (Stanford, USA), Jared Diamond (UCLA, USA), and P Wiens (University of Utah, USA).

In an era in which South Africa was a pariah state, many international figures were reluctant to visit South Africa. However, the fact that their visits were financially supported by the CSIR through the Fynbos Project, rather than directly by government, influenced many of them to come to South Africa. International leaders

xli. Brian Huntley was involved in the International Union of Biological Sciences (IUBS), SCOPE and the International Union for Conservation of Nature (IUCN) for 15 years, facilitating the growing partnership with international scientists within these organisations and others.

xlii. Harold Mooney was a central player in the Millennium Ecosystem Assessment and leader of the Global Invasive Species programme who served as Secretary General and Vice President of the International Council for Scientists.

xliii. Ian Macdonald, pers comm, interview, 27 September 2016.

xliv. Now called Curtin University.

gave keynote presentations at the Fynbos Biome Project's annual meetings, providing local participants with direct exposure to overseas' trends and developments. They also took part in smaller workshops, thereby contributing detailed input to individual projects. These influential visitors also learnt about the fynbos and its remarkable diversity and vulnerability. This awareness of the value of fynbos and the local capacity to protect it would later become important in generating international support for its conservation as a global asset.

Although overseas study trips were not necessarily funded by the Fynbos Biome Project, the international links that it helped to facilitate assisted with the exposure of young local scientists to leading international scientists who acted as powerful mentors for a new generation of ecologists and conservation biologists. In many cases, these relationships resulted in joint research projects and international post-doctoral and fellowship opportunities that helped to expand intellectual horizons and leapfrog careers. For example, in 1981, William Bond visited Charles Gimingham and Richard Hobbs in Birmingham, Louis Trabaud in Montpellier, and then went on to San Diego State University to spend time with the systems ecology research group. He went back again between 1982–1986, while doing his PhD, to work extensively with Martin Cody. Richard Cowling spent an extended period in Australia in 1984, where he presented a number of papers. In 1989, Tony Rebelo presented a paper on theoretical ideas of conservation in the fynbos. This led to meetings in London and then in Berlin in 1994 run by Chris Margules, Bob Pressey and Chris Humphries, which contributed towards the conservation planning that was to be a focus of work in the Fynbos Biome in the 1990s. This was also the motivation for a detailed study of distribution patterns in the Cape Floristic Region, which resulted in the Protea Atlas Project.

Greg Forsyth

Jonkershoek Valley – view from the Square Tower Peak looking towards Swartboschkloof and showing the mountain catchments, pine plantations and pine invasions on the left.

2.6.4 Development of a highly motivated and capacitated local network

Huntley argues that the influence of the Fynbos Biome Project was "both conceptual and sociological."[90] Those involved in the project agreed:

> *The sociology of science, developing personal trust through face-to-face contact, was very important. This became part of the South African approach – we became used to the workshop model and it has continued to be used very productively in the water sector. Particularly in developing methods for assessing the water requirements for rivers and wetlands (required by the National Water Act 38 of 1998), and in working with engineers as partners rather than as adversaries. (Jenny Day)*

The most important outcome of the 13 years of collaborative work on the Fynbos Biome Project was the development of an "invisible college", comprising scientists and managers who had a vastly improved understanding of the functioning of the fynbos ecosystem and who were passionately motivated to conserve it.[91] There was general agreement on the basic principles of sound management, although implementation was constrained by lack of resources. They knew each other well and had experienced the benefits of multidisciplinary collaborative research. As a result of the success of the Fynbos Biome Project, they had strong personal determination to continue meeting and working together after the formal, well-funded Project had ended. Brian Huntley ended his review of the Fynbos Biome project with the following challenge:

> *The generation of young ecologists produced by the Fynbos Biome Project has much to offer but on them rests a responsibility to stimulate a new wave of research and action directed more sharply towards the needs of the 1980s.*[92]

This was a challenge that they certainly responded to—continuing to strengthen regional research and management with many becoming national and international leaders. As is discussed in the next chapter, one of the ways in which they did this was to establish an informal forum that continued its active support for the conservation of fynbos long after the FRD had altered its funding structure and the cooperative science programmes, including the Fynbos Biome Project, had ended.

George Davis

Field work in the Cederberg.

[The Fynbos Biome Project] gave shape and form to the type of scientific questions that people were asking…. It did not direct them, it created avenues. People who had been working in the agricultural sphere, entomologists and soil scientists, suddenly started asking ecological questions—it was transformative—there was very little direct funding for postgraduate work, but it helped the academic supervisors to think about how to frame things to generate funding—how to justify their proposals. (Fred Kruger)[xlv]

The Fynbos Forum, and its predecessor the Fynbos Biome Programme, have contributed significantly to my development as a scientist. The opportunities to interact with peers in my field of fire ecology and in different fields of research (e.g. ecophysiology, demography) broadened my interests and thinking and shaped my research. They also enhanced my fieldwork by opening my eyes to other things to look for, note and question. Fred Kruger understood the importance of field-work based research for ecologists, and I owe a lot of my development as a scientist to him and his support for my involvement in the fynbos community. (David Le Maitre)[xlvi]

The first research paper that I ever presented at a scientific meeting was at the inaugural meeting of the Fynbos Biome Project in the 1970s, so it marked the start of my career. I subsequently attended almost all of the following meetings. The meetings were a great opportunity to engage with a wide range of researchers from universities, science councils and national and provincial government departments. The highlight for me, I suppose, was leading the Swartboschkloof fire project which resulted in a multi-author book in Springer's Ecological Studies series in 1992. The Fynbos Biome Project also provided many opportunities to engage internationally, through the MEDECOS network and the SCOPE programmes on fire and invasive species. In later years, I remained engaged with the new Fynbos Forum, and made presentations at several of the meetings, although the demands of a new job at the CSIR prevented in-depth engagement. It has nonetheless been very encouraging to see how the tradition of annual research and management meetings has continued under enthusiastic new leadership. (Brian van Wilgen)[xlvii]

Looking back to my FBP (Fynbos Biome Project) involvement all those years ago it is clear to me that this Co-operative Scientific Programme facilitated us in the then UCT Botany Department to consolidate and make the Department arguably one of the best in South Africa. Under the leadership of Owen Lewis, who started to totally rebuild the Department when he was appointed as Professor and HOD in 1970, the FBP gave staff in the department the opportunity to grow nationally. The funding received allowed us in the Department to set postgraduates such as Bruce Campbell, Willy Stock, Barrie Low, Richard Cowling, William Bond, Bruce McKenzie, Margie Jarman, and Pat Holmes, to mention but a few, on their career paths. (Eugene Moll)[xlviii]

xlv. Fred Kruger: Chair of the Fynbos Forum from 1985-1989. Head of fynbos research and later director of SAFRI, and first director of Forestek, CSIR.

xlvi. David Le Maitre, Principle Scientist, CSIR's Natural Resources and Environment Division.

xlvii. Brian van Wilgen, Emeritus Professor in the Department of Botany and Zoology at Stellenbosch University. Prior to moving to SU in 2014, was Chief Researcher in the CSIR's Natural Resources and Environment Division.

xlviii. Eugene Moll: Former Senior Lecturer and Head of Department: University of Cape Town.

For those, then young, researchers in the late 1970s, the Fynbos Biome Project was an amazing open community that allowed honours, MSc and PhD students to interact on what seemed to be a totally level playing field. The understanding of fynbos ecology was in its infancy, so many ideas were being proposed and it was a time of big systems thinking and the first use of computers to assist with the research on ecology and ecosystems. The key word was that it was "cooperative" and optimistic research brought many different disciplines together to focus on this unique system we called the Fynbos Biome. As a scientific programme, its elegance was its simplicity and innocence, such as when everyone moved down to Kommetjie for a couple of days of workshop interaction (with Margie Jarman's house being the proverbial Head Quarters). It all seemed amazingly productive and collaborative in those beginning years, and yet also relaxing with walks on the beach where we would still argue among each other [about] our particular points of view. It was also a time of significant intellectual productivity with the production of the largely descriptive but exceedingly useful ad hoc publications produced under the South African National Scientific Programmes series of the Cooperative Scientific Programmes. I would characterise the early days of the Fynbos Biome as a euphoric and exuberant journey of ecological discovery by a large collective family of passionate naturalists and researchers. (Richard Knight)[xlix]

Esme Beamish

Disa graminifolia, Myburg's Ravine

xlix. Richard Knight: Senior Lecturer University of the Western Cape.

I joined the Fynbos Forum collegium, then the Fynbos Biome Project, in 1984. It was like entering a karate dojo awash with energy and enthusiasm at the student level, replete with finely honed technical skills amongst the professional cadre of black belts, and guided by wise senseis who, during sparring, could deliver blows that hurt and taught, but didn't harm. For me, it has been a singularly valuable school of professional development in the deadly serious business of reconciling humanity with nature. (George Davis)[l]

As a young researcher at Cape Nature Conservation, Chris Burgers dragged me to my first Fynbos research meeting at UCT in June 1986. The registration for this meeting of the Fynbos Bioomprojek/Fynbos Biome Project (as it was called at the time) was R20.00! In June 1987, the meeting was held at Saasveld School for Forestry where I did my first poster presentation at a research conference. (Ruida Pool-Stanvliet)[li]

Caroline Gelderblom

Stalwarts who have been attending the Fynbos Forum for 4 decades at the 2017 meeting.
Back Row L to R: Tony Marshall, Ed February, Nicky Allsopp, Dave le Maitre, Christo Marais
Front Row L to R: Clive MacDowell, Richard Cowling, Tony Rebelo, Pat Holmes, Maryke Middelmann

l. George Davis: Programme Manager at SANBI, Biodiversity Communications.
li. Ruida Pool-Standvliet, scientific services, CapeNature.

Cliff & Suretha Dorse

Arum Lily Frog (*Hyperolius horstockii*), Rondevlei

CHAPTER 3: FYNBOS FORUM OF THE 1990s

3.1 ESTABLISHMENT OF THE FYNBOS FORUM

In 1990, the national Foundation for Research Development (FRD) changed its emphasis from large cooperative projects to individual funding. This was allocated through a rating system that focused on academic excellence as measured by peer review.[93] The regional impact of this change in funding model was significant. Many of the outstanding young scientists who had emerged during the Fynbos Biome Project were not yet well established in their careers, and so, after the termination of the Fynbos Biome Project funding in 1989, it was some time before they gained high enough individual ratings to get funding to support a significant number of students working under them. Widespread institutional restructuring and increased restrictions on the nature of the work that could be undertaken made it more difficult to communicate and collaborate. Fortunately, a small amount of money and secretarial support was provided by the FRD to allow several of the former Cooperative Science Programmes, including the Fynbos Biome Project, to continue with their annual conferences.

The initial objectives for the continuation of the annual fynbos conference were:

- To provide a forum for informal exchange and a review of research findings relevant to the Fynbos Biome;
- To allow discussion on future research needs and priorities; and
- To communicate research results to user agencies and discuss with them how to achieve implementation.

The annual conferences maintained the early camaraderie that had been established through the Fynbos Biome Project. The opportunity to meet with former colleagues who had moved to other organisations was invaluable. Although some people who had been drawn in by the Fynbos Biome Project fell away, a strong core remained and attracted new participants, including many managers from the conservation agencies. Reestablishment of international links brought many overseas visitors during this period and created some exciting new opportunities for collaboration and funding.

3.2 REGIONAL CONTEXT – A NEW DEMOCRACY

During this decade, as South Africa moved out of apartheid and into democracy, there were substantial changes that created new opportunities and fresh challenges.[94] The establishment of a democracy in 1994 was accompanied by a drive for racial and gender transformation and economic empowerment.[95] This first decade of democracy was characterised by people rethinking old issues and developing innovative solutions. At this stage, many sections of government were open to these innovations and an important window of opportunity was created by the large-scale development of new policy frameworks and extensive institutional restructuring (box 3.1). This rapidly changing environment with its sense of opportunity had a profound impact on individual people and on the science and conservation they practiced.

Greg Forsyth

Department of Forestry staff and their families who lived and worked at the Jonkershoek Research Station.

Box 3.1: Institutional Changes in the Conservation Sector

Significant institutional change occurred both before and after the first democratic election in 1994. At the end of the apartheid era, declining government income led to significant restructuring in an attempt to rationalise costs.

The South African Forestry Research Institute (SAFRI), which had played a central role in early research, including extensive involvement in the Fynbos Biome Project, became part of the CSIR in 1990.[i] To ease their transition into the CSIR, the Forestry scientists under the leadership of Fred Kruger were given some initial support for research. However, within two years, in line with standard practice in the CSIR, they were expected to earn a significant proportion of their income as private consultants. They were moved out of the historic Jonkershoek offices that were so strongly linked to long-term monitoring sites, and funding for long-term research decreased. The production component of Forestry became a parastatal the South African Forestry Company Limited (SAFCOL) in 1993. A decision to privatise forestry was taken in 1998. This contributed to a reduced investment in controlling the spread of aliens from plantations.[96]

The Botanical Research Institute (BRI), which had formed part of the Department of Agriculture, was split off in late 1989. Many scientists involved in the Fynbos Biome Project, including Dave McDonald and the herbarium staff led by Ted Oliver, were transferred to the National Botanical Institute (NBI), which would later, in 2004, broaden its mandate to become the South African Biodiversity Institute (SANBI).[ii] Some of the original Botanical Research Institute scientists remained with the department of Agriculture, becoming part of the new Agricultural Research Council (ARC) in 1992.

The change to democracy was accompanied by a re-delimitation of the provinces, and this had a significant impact on all provincial agencies. The former Cape Provincial Conservation Department was now divided into three agencies, one in each of the three new provinces: the Western, Eastern and Northern Cape. However, the majority of the research capacity remained in the Western Cape. During the mid-1990s, the government offered severance packages to members of the Western, Eastern and Northern Cape conservation agencies. A large number of scientists and management staff took these packages, significantly decreasing regional capacity. The National Parks Board became increasingly involved in the fynbos region as more reserves were established there. (The West Coast National Park was established in 1988, the Lakes National Parks were established in the early 1990s and the Agulhas National Park and the Table Mountain National Park were both established in 1998).

Even the funding agencies changed significantly during this period: the FRD, which had run the Cooperative Scientific Programmes, had become autonomous under the Research Development Act No. 75 of 1990. It then merged with the Centre for Science Development (from the Human Sciences Research Council) to form the National Research Foundation in 1998.[iii]

The Southern African Nature Foundation, which had been founded by Anton Rupert in 1968, was renamed the World Wide Fund for Nature, South Africa (WWF-SA) in 1994. WWF-SA, led first by John Hanks and later by Ian Macdonald, was critical in helping to access funding for priority projects. For example, it organised funding for the development of the presentation that led to the establishment of Working for Water. WWF-SA also funded the application to the Global Environmental Facility (GEF)[iv] for a substantial grant to support the establishment of the Table Mountain Fund, and later the Cape Action for People and the Environment Partnership Programme (CAPE) and the Table Mountain National Park (sections 3.7 and 4.1.1). In addition, WWF-SA channelled money from Leslie Hill, one of its donors, to create a chair of plant conservation at the University of Cape Town (UCT) in 1993. Richard Cowling was appointed as the first director with Dave Richardson as his deputy.

The Botanical Society (BotSoc), under its director Bruce McKenzie, became very active in conservation. This was particularly true of its Cape Conservation Unit, which piloted several innovative approaches that would be adopted by government at a later stage.

i. Fred Kruger, previous head of SAFRI and first director of Forestek: pers comm, interview 29 February 2016. "The Department of Forestry was restructured in an attempt to rationalise costs."
ii. Dave McDonald, former BRI scientist, pers comm, email 11 April 2018.
iii. National Research Foundation Act (Act No 23 of 1998).
iv. The GEF had been created to assist developing countries (and countries in transition) in implementing the Convention on Biological Diversity (1983) and the United Nations Framework Convention on Climate Change (1992).

3.3 DRIVERS IN THE 1990s

3.3.1 New beginnings – Establishment of the Fynbos Forum

While attendance at the Fynbos Biome annual meetings had been compulsory for all FRD grant recipients, the people who gathered for the first independent meeting in 1990 were all there of their own volition. They reflected the momentum that had been generated during the Fynbos Biome Project. These people were, without doubt, the greatest outcome of the Project. They would continue to make a significant difference to conservation in the region by coming together to learn from each other and develop proposals for collaborative action around conservation priorities. The theme of the first programme was "Towards the 21st Century", and it was full of exciting new work. The opening talk on "Past achievements and future prospects for research" was presented by a young Richard Cowling from UCT, who was already emerging as a thought leader in the conservation community. Brian Huntley, who was then heading up the National Botanical Institute, maintained contact with the Forum, giving the closing presentation in the 1998 conference, themed "The Fynbos Forum 21 years on".

Box 3.2: Developing a New Identity

The first two independent annual conferences, held in 1990 and 1991, were convened as the "Fynbos Biome Annual Research Meeting." The name Fynbos Forum was suggested in 1992 and, after some debate, it was formally adopted at the 1993 annual general meeting.[v] In 1998, a number of submissions were put forward for a logo – the one ultimately chosen was designed by David Davidson of NBI and based on a *Protea cynaroides* (King Protea) flower. It has been on the programme cover since 1999. The Fynbos Forum Mission was proposed by Maryke Middelmann at the 1998 AGM. This was adopted and formed part of the programme from 1999 and, in its current form, was formally accepted in 2000:

***Mission*:**

To provide a Forum for the interaction of stakeholders to identify the priorities for the fynbos.

The Fynbos Forum is an affiliation of researchers, planners, managers, landowners and a range of other stakeholders that meets annually to discuss management issues and research results, and to formulate priorities for future research and conservation management actions required to ensure the conservation and sustainability of fynbos ecosystems.

In order to achieve this goal, we undertake to assess biological resources, ensure institutional capacity and consider socio-economic issues.

v. The annual conference now included a formal annual general meeting, which took place over a few hours. An attendance register was kept, together with official minutes that recorded discussions and formal resolutions.

Cliff & Suretha Dorse

Erica campanularis and *Moraea versicolor*

3.3.2 A focus on fun and getting to know each other and the region

During the 1990s, the Fynbos Forum meetings were systematically moved around the region to increase accessibility and showcase different areas. The variety of locations made the venues and field trips more exciting and also enabled participants to see local opportunities and challenges first hand. Popular field trips included a visit to the De Hoop Nature reserve (1991), the Kogelberg (1995), the Genadendal Working for Water Project (1997) and the Waenhuis Cave and Overberg Test range (1998). Frequently there was a residential venue where all the delegates could stay together and interact over meals and breaks. This strengthened the cohesion of the meeting, although some felt it was taken to an extreme in 1994 when all participants were locked up together in the jail at Bienne Donne, near Franschhoek.

As money was always tight, a stoic tradition was developed during this era of braving extraordinary cold. The meetings were always held in mid-winter in draughty halls. A survivors' camaraderie was established after freezing conditions had been endured together. It is generally agreed that the coldest conditions were experienced in 1996 when the participants were seated on a slatted, windy deck over the dam at Nekkies, near Worcester. It was certainly unlikely that anyone would nod off during those presentations, and it ensured that everyone arrived on time as the later you were the colder your seat.[vi] The chilly venues were, however, tempered by the warmth of the hospitality of the local communities. The local "tannies" provided delicious food in many a town hall, and among these, the Swellendam

Brian Huntley

Walter and Ruth Middelmann, together with other cold delegates.

vi. By the second day most people were wearing not only all the clothes they had with them but had brought their bedding as well.

medieval feast was unforgettable. The projection facilities were sometimes challenging—promoting the adaptability of the presenters—and the use of black bags stuck over windows to reduce light remains standard procedure.

Christo Marais, the new chair, was a sociable person; he had noticed that during the Fynbos Biome Project years the evening braais tended to be a bit formal, with scientists and managers not interacting much, so on the first evening of his first conference as chair, at Potberg De Hoop, he decided to loosen things up a bit by introducing wine tasting—the rest is history. But even if the impact of hot springs on the metabolism of wine, the "piggy back" horse races down the main street of Genadendal or the outcomes of witblitz tasting at Nekkies remain largely unrecorded, the Forum's reputation for fun became well established. The relaxed atmosphere encouraged interaction and the development of genuine friendships. It also provided an invaluable opportunity for those who had been separated by institutional restructuring to reconnect and for new members to be introduced to the wider fynbos community. Important ideas were often generated in animated discussions late at night around issues that were close to people's hearts. As described in sections 3.7 and 4.1, these discussions were the forerunners of the proposals that led to the Working for Water Programme and CAPE. What made these late night discussions different is that they involved a wide range of committed and knowledgeable people from very different backgrounds, and furthermore, they had a remarkable tendency to lead to action.

3.4 LEADERSHIP AND COORDINATION

The Fynbos Forum had no formal structures apart from a voluntary committee: its considerable impact was consequently the outcome of the commitment of individual members determined to contribute to the conservation of the fynbos.


Maryke Middelmann
Christo Marais

The first independent conference was convened in 1990 by Neil Fairall, who headed up the provincial conservation agency at the time (Chief Directorate: Nature and Environmental Conservation). At that meeting, an enthusiastic young ecologist from the provincial conservation agency, Christo Marais, was elected as chair—a position he would hold for the next ten years. As a young conservationist, Christo Marais could see the potential of the Fynbos Forum to make a difference to the understanding and conservation of the biome. He threw himself into the task of chairmanship with characteristic energy and enthusiasm. He purposely made the meeting accessible and interesting to managers—breaking down the formal academic atmosphere that had characterised the Fynbos Biome Project. Christo was one of the central players in the convening of Fynbos Forum workshops on the impact of invasive alien plants on water use. Once the Working for Water Project was initiated, he was appointed to manage the "Fynbos" component of the programme. His interest and involvement in both science and management made him a critical bridge linking his organisation, CapeNature, and later, Working for Water, with the rest of the network.

Maryke Middelmann was appointed to the committee in 1991 and acted as secretary, taking the minutes of the annual meeting until 2005. She was a tremendous support to Christo, her understanding of the underlying issues enabling her to highlight key outcomes effectively. In addition, she wrote a wonderfully entertaining informal record of the annual meetings. She generously provided wonderful floral decorations for the venue and her beautiful bouquets were given as prizes and gifts to those who made significant contributions. Maryke served as a vital link with the wildflower industry through her concomitant involvement in the South African Protea Producers and Exporters Association (SAPPEX), securing support for many critical projects, including the Fynbos Forum database (box 3.4) and the establishment of a gene bank at Elsenburg to preserve the diversity of wild proteas.[vii] Important partnerships between SAPPEX and those involved in fire and invasive plant management were also facilitated by their mutual involvement in the Fynbos Forum. Maryke also contributed to the development of a proposal to conserve biodiversity on the Agulhas Plain, which led to the establishment of the Agulhas Biodiversity Initiative.

The other committee member who served for the whole of this decade was Dave McDonald (National Botanical Institute and later, BotSoc). His meticulous phytosociological fieldwork on fynbos communities provided an invaluable contribution towards a wide variety of projects. Charlie Boucher from Stellenbosch University and Penny Mustart from the University of Cape Town provided continuity from the previous Fynbos Biome Project committee. Those who joined the committee later included Jan Boelhouwers (University of the Western Cape (UWC)), Greville Ruddock (CapeNature) and Gerhard Malan (ARC), Julia Wood (Cape Town City Council (CCT)), Krystal Maze (BotSoc) and Jane Turpie (UCT). Others who were very involved in this period, chairing sessions and presenting papers, included AnneLise Schutte-Vlok, William Bond, Neil Fairall, Tony Rebelo, George Davis and Pat Holmes. Kristal Maze and Julia Wood both started to play an increasing role in the organisation of the meetings, including putting together the conference programme. Both chaired the forum during the 2000s.

The FRD continued to provide a secretariat, together with a small stipend to help cover the running costs of the meetings. Marie Breitenbach, who in 1989 had been brought in to help convene the last annual meeting of the Fynbos Biome Project, ensured that the meetings continued to run smoothly despite the more informal approach. Bettie de Beer then took over in the middle of the 1990s, efficiently coordinating the rest of the meetings (except for the 1999 Reins meeting, which was organised by Nicholas Cole). It was at this meeting that the Fynbos Forum paid tribute to Hugh Taylor one of the founder members of the Fynbos Biome Project. Dan Walmsley of the FRD was a regular presence in this decade, giving opening addresses and chairing sessions.

vii. Prompted by Maryke, SAPPEX were willing to provide funding for the critical presentation that led to the initiation of the Working for Water Programme (although, in the end WWF-SA found alternative support as detailed in section 3.7).

3.5 NETWORKING AND COLLABORATION

3.5.1 Organisational profile – Increasing involvement of managers

During the 1990s, the average number of attendees remained just under 100, but the tight-knit group continued to believe it could make a difference. The most important change was the transformation of the Fynbos Forum from a meeting largely dominated by academics into one that had equal participation by managers (the managers increased from under 25% to nearly 50% of participants during the 1990s) (figure 6.7 in Analysis chapter). Their increased involvement resulted in engagement with issues relevant to implementation. This was an outcome of active encouragement by the chair, Christo Marais, who was particularly successful in engaging those from his own organisation, the provincial conservation agency. In this period, the number of presentations by Cape Nature Conservation staff doubled, making up 12% of the programme (figure 3.1 below). There was also an increase in participation by managers from local government, and the Cape Town City Council became one of the top 10 organisations presenting papers at the Forum. The City's conservation planners, Paul Britton and James Jackelman, were particularly active participants. In 1996, when they were transferred to the South African National Parks Board (SANParks), they promoted increased SANParks involvement in the Fynbos Forum, as did those involved in the other new national parks on the West Coast and at Cape Agulhas. The continued involvement of the City after this transfer was encouraged by Julia Wood, who joined the City in 1995. Dalton Gibbs, also from the City, first started coming to the Forum in 1996 and from then on entertained the participants, winning many awards for best presentation.

Maryke Middelmann

Dave Richardson and Richard Cowling

As the number of managers in the Forum increased, the relative proportion of academics decreased, but despite their drop in attendance numbers, UCT remained the largest contributor to the formal programme (figure 3.1), leading Stellenbosch University by a small margin. However, whereas previously a broad range of departments had been involved, after the closure of the Fynbos Biome Project, several UCT departments started to attend specialist meetings rather than the regional forum. By the end of the decade, UCT's involvement in the Fynbos Forum was primarily through the Botany Department under the leadership of Eugene Moll and William Bond, with the support of other scientists such as Dave Richardson, Jeremy Midgley and Penny Mustart. The Institute of Plant Conservation, established in 1993 and housed at UCT, was particularly involved in the Fynbos Forum with active encouragement from its director, Richard Cowling and his deputy, Dave Richardson.

In keeping with the increasingly important role that NGOs had begun to play in the nature conservation sector, the number of delegates coming from NGOs increased (figure 6.5 in Analysis Chapter 6). BotSoc, in particular, featured in the top 10 organisations in terms of contributions to the formal programme. They also began to play an important role in managing the Forum. Private individuals became significant role players in the Forum in the 1990s, including representatives from industry, landowners and private consultants. This broadening participation gradually changed the dynamic of the meeting and contributed to an increased emphasis on informed action.

The giant cluster of the Fynbos Forum network, depicted in figure 3.1 below, includes those linked by papers and includes representatives from all the "top 10" contributing organisations. This indicates the good integration of this central group. There are, however, separate clusters for ARC and Stellenbosch University, and there are also a large number of individuals who are not closely linked to the giant cluster.

Cliff & Suretha Dorse

Graafwater Sandstone Fynbos

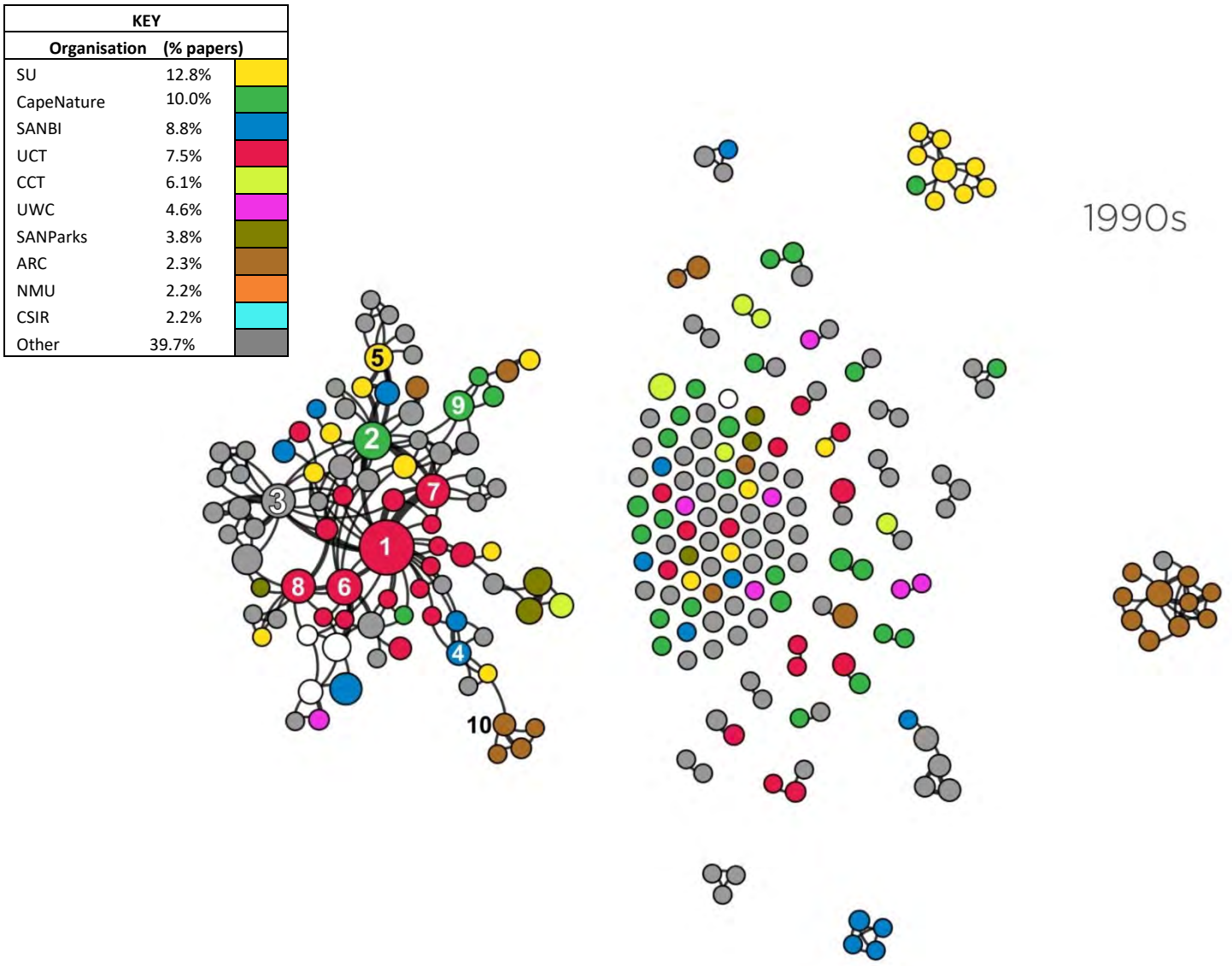


Figure 3.1: Network connectivity. Diagram indicating the contribution of organisations and individuals – results from a network analysis of the formal Fynbos Forum programmes in the 1990s.

The network measure depicted by the ranks in this diagram is "betweenness centrality", which identifies individuals connecting otherwise remote areas of the graph. Each point represents a member of the network who has presented papers during the annual meetings. The 10 individuals with the highest scores are labelled: (1= Richard Cowling (UCT), 2 = Christo Marais (CapeNature), 3 = David Le Maitre (CSIR), 4 = John Donaldson (SANBI), 5 = Charlie Boucher (US), 6 = William Bond (UCT), 7 = Penny Mustart (UCT), 8 = Dave Richardson (UCT), 9 = Neil Fairall (CapeNature), 10 = Mark Wright (ARC). Note organisation names are current to facilitate comparison across years. See Appendix 2 for details of organisational change over time, but for this graph, CapeNature was Cape Nature Conservation and SANBI was the National Botanical Institute. Percentage is the percentage of papers presented by an organisation during the annual conferences. NMU was the University of Port Elizabeth. The size of the point represents the number of connected papers the member presented and the shading of the points reflects the member's organisational affiliation. The key also provides an indication of the percentage of papers presented by the 10 organisations whose affiliates presented the most papers. Grey shading indicates a member who is affiliated to an organisation that is not in the top 10. Lines indicate co-production of papers. The total number of authors in this decade was 247, they are connected by 260 links and the density of the network is 0.009. The giant component comprises 35% of all authors and 67% of all links.

3.5.2 Important contributions to the formal programme

Richard Cowling was very actively involved in the Fynbos Forum. As director of the Institute for Plant Conservation at UCT in the 1990s, he provided inspirational leadership to a group of highly motivated and productive young students and mid-career scientists—half of his links were consequently within the broader UCT network. He ranked highest in all four of the measures assessed in the network analysis of the formal programme: he was involved in the most publications, had the highest number of connections, worked with the most connected people and played a key role in linking different components of the network and encouraging others to get involved (this is depicted in figure 3.1 above). His influence extended beyond internationally recognised academic excellence to active conservation. Richard led the cutting-edge scientific analysis used to successfully motivate for a substantial allocation of GEF support for the conservation of the fynbos region. He was also an important driving force behind the development of the presentation that led to the establishment of the Working for Water Programme. In addition, he invited influential international visitors, such the ecological economist Bob Costanza, who stimulated a local interest in resource economics through his work on the economic value of the fynbos ecosystems.

In addition to his role as chair, discussed above, Christo Marais was also actively involved in the formal programme. He collaborated with 21 individuals and co-produced 11 presentations: this resulted in his having the second highest networking score as calculated by his contributions to the formal programme. David Le Maitre had the third highest networking score as measured by his presentation of papers, coming in the top five for all four measures assessed. He was involved in a wide range of fields, thereby connecting his organisation, the CSIR, with the rest of the network. Both a biologist and a hydrologist, he played a role in research into the water use of invasive alien plants, which supported the motivation for the Working for Water Programme. Others who made a particularly substantial contribution to the formal programme of the Fynbos Forum during the 1990s included John Donaldson, William Bond, Jeremy Midgley, Penny Mustart, Dave Richardson, Bertie van Hensbergen and Neil Fairall (all of whom were in the top 20 for all four networking measures). Jane Turpie, Kristal Maze, Guy Midgley and Charlie Boucher were in top 20 for three of the networking measures (see appendix 4 for more details of this network analysis).

3.5.3 Transformation

The new democratic dispensation drove transformation in the 1990s within all organisations, but it was particularly effective in new institutions such as the Working for Water programme (WfW) that had started with a clean slate. As WfW was one of the most rapidly growing environmental programmes, it had a significant impact on the membership of the Fynbos Forum. Several long-standing members of the Forum were involved in managing or promoting WfW and they encouraged their staff to attend the annual gatherings. Their exposure in the Fynbos Forum contributed to several outstanding black WfW managers being head-hunted by other organisations promoting broader transformation.[viii]

The female and black Fynbos Forum participants began to increase in number, although initially they were still largely in junior positions. During the 1990s, the average percentage of female attendees increased to

viii. Christo Marais, pers comm, email 24 April 2018.

almost 30%. In 1998, Julia Wood (South Peninsula Municipality, now part of City of Cape Town), Kristal Maze (BotSoc) and Jane Turpie (UCT) joined the committee, thereby increasing the representation of women in leadership to over 50%. By the end of the decade, there were more women than men on the committee and Kristal Maze became vice-chair in 1999. Women were, however, still under represented in the network as measured by co-authorship of papers presented at the annual meeting. Of the most embedded individuals, only 20% were women, and Penny Mustart was the only woman who ranked in the top five for all measured networking scores. While black attendees increased, there was, as yet, no black representation on the committee.

3.6 IMPORTANT OUTCOMES IN THE 1990s

Although the meetings of the 1990s were still relatively small, there was a strong bond and sense of common purpose that resulted in the group making a significant contribution to the region's conservation. During the early 1990s, teams were still completing the major outputs of the Fynbos Biome Project, producing the books *The Ecology of Fynbos* and *Fire in South African Mountain Fynbos,* as well as finalising a number of theses, all of which helped maintain regional momentum. The existence of the Fynbos Forum meant that this material and other new discoveries were shared within a broader community and this ensured that the invisible college of capacitated and motivated individuals was maintained and expanded. As a result of the widespread institutional restructuring, many individuals indicated that they were finding it difficult to stay up to date with the research done in other institutions. The annual Fynbos Forum meetings therefore became an invaluable source of information on new work being done in the sector. In terms of topics discussed during the Forum itself, the increased participation of managers meant that conservation management was addressed in more papers. In response to the changes in the political environment, there was also a significantly increased emphasis on community interaction and economics (see section 6.2).

At the 1993 AGM it was agreed that "The Fynbos Forum had played a very important role in promoting technology transfer and developing a network of expertise which integrated knowledge, information and the goals and problems of resource managers with those of researchers and educators."[ix]

The emphasis on maintaining international links continued as the Fynbos Forum was established, and in 1992, Brian Huntley facilitated the hosting of the Scientific Committee on Problems of the Environment (SCOPE) conference in conjunction with the Fynbos Forum. Influential international visitors involved in this meeting included Richard Hobbs, Jon Keely, Eduardo Fuentes, Byron Lamont and Jacques Blondel. There was ongoing international interchange throughout this decade, exposing a number of leading international scientists including Norman Myers to the exceptional biodiversity of the region

The belief in the potential of individuals and small groups of people to facilitate significant change was particularly prevalent in the early nineties as the negotiated settlement led South Africa into democracy. This was further strengthened by the development of a number of new institutions that underwent relatively

ix. Minutes of the 1993 Annual General Meeting.

rapid transformation and the concurrent drafting of new legislation to strengthen the country's national governance.

Nigel Forshaw

Tony Rebelo holding *Leucadendron immoderatum,* a new find for the Protea Atlas.

The primary external impact of the Fynbos Forum was that it provided a collective mandate for prioritising action, thereby facilitating buy-in from a wide range of stakeholders. This endorsement provided support for a number of important initiatives including the Working for Water Programme and CAPE (see sections 3.7 and 4.1.). In 1997, when the Protea Atlas Project was threatened with early closure due to a capacity crisis within the NBI, the Fynbos Forum motivated for its maintenance, highlighting its importance for both scientific research and conservation (see box 3.3 below).

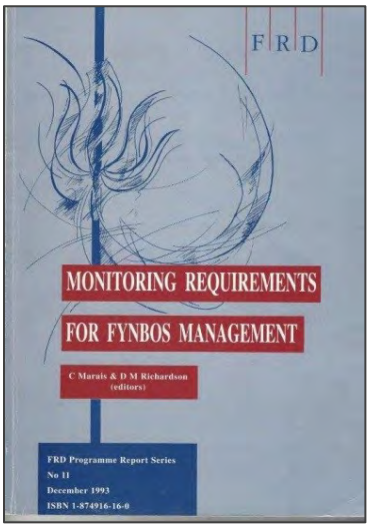
Box 3.3: The Protea Atlas Project[x]

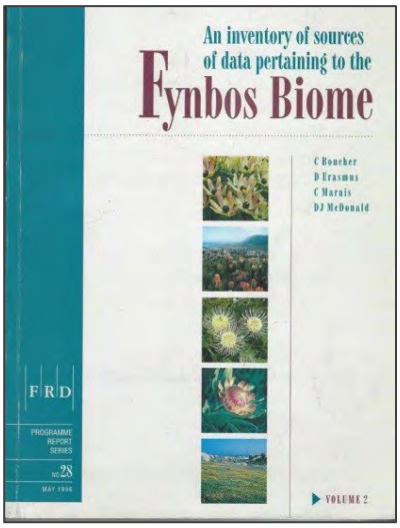
The Protea Atlas Project was one of the first large-scale South African citizen science programmes. The aim of the Protea Atlas Project was to record the geographical location of members of the Protea family throughout southern Africa for the benefit of conservation, rural communities, farmers, reserve managers, tourism, the cut flower trade and botany. This was done through the active recruitment of amateurs and professionals and was supported by an extensive training programme. Tony Rebelo was the driving force behind it, motivating people with his enthusiasm and determination to make science accessible. He regularly presented the rationale, approach and results to a receptive audience of Fynbos Forum members, recruiting many participants, particularly reserve managers. This exposure and the support it generated, contributed to the remarkable success of the Protea Atlas Project. These collections of species' localities were made between 1991 and 2014. A total of 265 477 records, from 65 401 localities, including 400 taxa, were collected by 487 participants.[xi] These data allowed scientists to map the distribution and to determine the ecological requirements of each species in the Protea family. The Protea Atlas Project provided some of the first accurately mapped species-level data, which has proved invaluable to several applications. For example, it was used to support vegetation mapping and modelling and to explore the projected impacts of climate change. It was also instrumental in refining the habitat-unit based approach later used in the CAPE systematic conservation planning project. It played a major role in refining South Africa's Red List assessments, providing the first database that automated the process and guided assessors. Protea Atlas data have also been vital in identifying important fragments of the highly threatened lowland fynbos for conservation. The database has been used to help prioritise alien clearing and by many researchers planning field trips. Internationally, it was used to spearhead Bayesian species distribution modelling. The Protea Atlas Project also provided the conservation community with two of its prominent members: Ismail Ebrahim and Val Charlton. It trained many volunteers who were then ready to participate in the CREW programme (Custodians of Rare and Endangered Wildflowers) and the iSpot and iNaturalist citizen science programmes.

x. 1994 Kumleben Commission into the Institutional Arrangements for Nature Conservation in South Africa. The report was released in 1998.

xi. Tony Rebelo, pers comm, email 23 February 2018.

The Fynbos Forum also made inputs into important policy processes that were underway during this period. For example, in 1996 and 1998 sub-committees made formal inputs to the commission on Nature Conservation Structures and Capacity.





The Fynbos Forum continued to use structured workshops to bring diverse stakeholders together to develop important products—building on the approach developed by the Cooperative Science Programmes. These workshops were not just "talk-shops" but made a significant contribution to strengthening fynbos conservation and research. For example, a workshop in 1993 on monitoring led to the production of two data catalogues to support regional research (see box 3.4).

Box 3.4: The Fynbos Biome Data Catalogues

In the 1990s, after the closure of the Fynbos Biome Project, individual organisations, including the universities, conservation agencies and parastatals, continued with research and monitoring programmes relevant to fynbos conservation. Due to the reduced coordination, there was more duplication and less agreement on standards and common objectives, which made it difficult to integrate and compare different datasets or to investigate key questions. Important datasets were unknown or difficult to access. This became a growing concern to local conservationists and the Fynbos Forum decided to convene a workshop on monitoring requirements for fynbos management in 1993.[97] A group of over 70 scientists, planners and managers met and agreed on the need to develop a coordinated monitoring system to address priorities for implementation and to set data standards. It was resolved to request the FRD to commission a data catalogue. This request was agreed to, with additional financial support provided by WWF-SA. Charlie Boucher was commissioned to undertake the project and he was supported by a sub-committee nominated by the Fynbos Forum. The resulting publication took the form of two volumes: the first, covering 400 databases, was published in 1995[98], and the second, detailing a further 600 databases, was published in 1996.[99] Funding for the production of these volumes was secured from the FRD and SAPPEX.

The Sustainable Wildflower Harvesting workshop was convened in 1992 by George Davis—Maryke Middelmann was also actively involved—forming a bridge between the industry and conservationists. This was followed by another workshop in 1995, sponsored by SAPPEX, to promote sustainable utilisation. Also in 1995, Barry Heydenrych convened a workshop on Lowland Conservation; this was under the auspices of the Fynbos Forum and with support from BotSoc, CapeNature and the Department of Agriculture.

One outcome of this workshop was a Fynbos Forum project in 1996 that focused on identification of conservation priorities on the Agulhas Plain. This provided the groundwork for the establishment of the Agulhas National Park in 1998, and much later, in 2008, for the establishment of the Nuwejaars Wetland Special Management Area. In 1999, Penny Mustart gathered all the role-players in the rapidly growing ecotourism sector for a workshop. Mark Botha played an active role in convening several workshops in the late 1990s and early 2000s to support the widespread revision of legal frameworks pertaining to environmental protection and private landwoners that accompanied the democratisation of the country. This early work resulted in incentives for landowners involved in the stewardship programme.

Julia Wood

Critically Endangered Elgin Shale Fynbos, Solva, which was saved from possible development in 1998 through the intervention of the Fynbos Forum with the support of WWF-SA. The critically endangered *Paranomus sp nov*, which is found only on these shale hills, is seen in the foreground. Solva was finally proclaimed a nature reserve in 2012.

The most significant of the Fynbos Forum workshops of this decade was held in 1993 at the Oude Libertas in Stellenbosch. The successful accomplishment of the resolutions arising from this meeting would contribute to the establishment of both the Working for Water Programme (see case study in section 3.7) and the development of an international proposal for substantial support for the conservation of the remarkable biodiversity of the region (section 3.8). It must be emphasised that much work by many individuals and organisations lay behind the successful development and implementation of these proposals, but it should also be recognised that articulating an inspirational vision and agreeing to collaborate to achieve it can result in significant change.

3.7 SUPPORT FOR THE ESTABLISHMENT OF WORKING FOR WATER

3.7.1 The history of research on the impact of invasive alien plants

The devastating impact of invasive alien trees on the fynbos catchments of the Western Cape was highlighted by scientists and managers as early as the 1930s.[100] Long-term monitoring was put in place by the Department of Forestry under the supervision of Christian Wicht to determine the impact of plantations on catchments, the resulting data providing insight into the potential impact of invasive alien plants on water yield.[101] In response, there were some attempts to initiate clearing operations, but for 35 years these efforts were largely ineffective as they were not sufficiently systematic or sustained.[102] In the 1970s, the Department of Forestry implemented a substantial planned control programme for invasive alien tree species in the fynbos catchments with the goal of optimising the delivery of water.[xii] Under Fred Kruger, the Department of Forestry's research arm continued to lead the way in research into the impact of invasive alien plants on hydrology, fire behaviour and biodiversity.[103,104] Due to the good communication within the Forestry Department, these new research insights were rapidly translated into management recommendations. The Department of Agriculture also had a strong research programme on biocontrol, which included both the Plant Protection Research Institute (PPRI) led by Mike Walters and a strong Biocontrol Programme led by Helmuth Zimmermann. The Fynbos Biome Project helped to integrate this departmental research with other components of the Cooperative Scientific Programmes that were looking at Invasive Biota and Inland Waters, and this included other research institutes and universities. This coordination helped to facilitate the development of significant capacity and the region consequently played a leading role in local and international initiatives to address invasives.[105] Unfortunately, in the late 1980s, budget cuts and restructuring resulted in a steady decline in capacity for on-the-ground management.[106] As a result, many catchments suffered from neglect and large areas became invaded.

xii. General Policy Memorandum for the Management of Mountain Catchments in the Western Cape Forest region 1985: The prime goal of managing mountain catchments is to secure the maximum sustained yield of water of the highest possible quality.

Brian van Wilgen

Pines in Franschhoek pass above Theewaterskloof Dam.

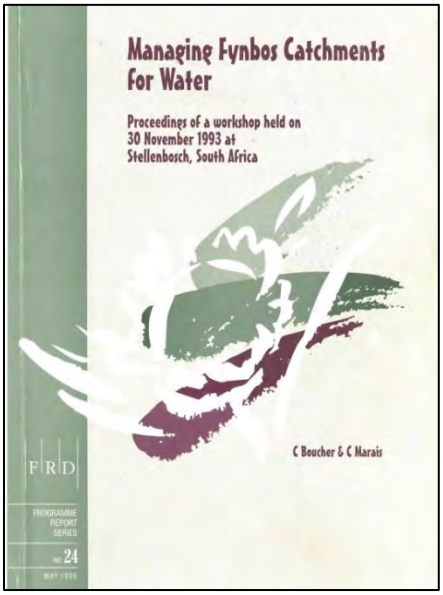
The impacts of this invasion were highlighted in the final publications of the Fynbos Biome Project.[107] The closure of the Cooperative Scientific Programmes reduced the coordination of research. Nonetheless, the Fynbos Forum continued to play an important role in maintaining regional capacity, bringing together dispersed research and management groups to discuss the impacts of invasives and best practice guidelines. Ongoing research in fynbos catchments by the Department of Forestry and the practical experience of managers provided evidence of the growing impact of the rapidly spreading invasive alien plants on both water and biodiversity. In the 1992 book summarising the findings of the Fynbos Biome Project, it was noted

Julia Wood

Acacia and pine invasion with plantations in background, Steenbras Catchment.

that "The conversion of fynbos shrublands to closed-canopy pine forests could reduce stream flow by almost 50%."[108]

3.7.2 The 1993 Oude Libertas meeting



The concept of a special meeting to evaluate the impact of invasive alien plants was initially suggested by Dave McDonald at the 1990 Fynbos Forum meeting at Potberg. During the 1993 Fynbos Forum annual general meeting, Richard Cowling and Jan Boelhouwers suggested a workshop to determine whether the available information on the increasing impacts of invasive alien plants was sufficiently compelling to be taken to decision makers to motivate for a major coordinated response. A coordinating committee[xiii] was therefore appointed to organise a workshop on the 30th November 1993 at Oude Libertas in Stellenbosch.

The workshop started with an overview of the fynbos catchment management policy. Research results were presented showing the significant negative impact of alien plants on Cape Town's water supply from mountain catchments. The overstretched water resources of the Western Cape and the rapidly rising regional demand for water were described, and speakers warned that potential water shortages would be a constraint on economic growth in the medium term.[109,110] Experts went on to describe the serious effect on the region's rich but vulnerable biodiversity. They also highlighted the need to make the conservation of catchments relevant to the new South Africa.[111,112] Importantly, the potential for job creation while clearing invasive alien plants was highlighted by Guy Preston. In his observations, he emphasised "the (potential) influence of these jobs on the quality of life in the region as a whole."[113]

In response to the compelling evidence, the meeting resolved to undertake two initiatives—the successful outcomes of which were to transform conservation in South Africa:

> *Two initiatives were identified for the future. Firstly, a promotional presentation or "roadshow" should be compiled and presented to local decision makers, based on data, models and results presented at the workshop. The emphasis of the roadshow should be on water run-off and not so much on biodiversity. Secondly, an international initiative should, on the other hand, concentrate on the biodiversity side of the problem. It was felt that the problem is well-defined and a time-scale could be coupled to a programme of alien plant control in the Western Cape. This, seen in the context that the Fynbos Biome is one of the biodiversity "hotspots"' of the world, should be presented to the world with much urgency.*[114]

xiii. Comprising Richard Cowling (chair), Christo Marais, Chris Burgers, Dirk Versfeld, Jan Boelhouwers, Penny Mustart, William Bond and Jeremy Midgley.

3.7.3 Filling in the gaps

The Fynbos Forum established a sub-committee of experts to take this resolution further. It was resolved at the Oude Libertas meeting that supplementary information should be gathered before presenting the case for controlling invasive alien plants formally to decision makers. Chris Burgers secured funding from the Department of Environmental Affairs and Tourism to do further research on the impacts of invasive alien plants in the Kogelberg catchment and requested the CSIR's help with the project. The CSIR research team (comprising former Department of Forestry researchers led by David Le Maitre) used their parliamentary grant funding and arrived at the estimate that, if left unchecked, alien plant invasions would potentially reduce water supplies to the City of Cape Town by 30%.[115] This work formed the foundation for a widely cited paper by van Wilgen, Cowling and Burgers that emphasised the negative impact of invasive alien plants on ecosystem services.[116] Another gap in information was detailed information on the costs of clearing, and this was therefore collated and analysed by Christo Marais. During this period, the South African Nature Foundation facilitated sponsorship from Total (France) for a project to clear invasive alien plants on Devil's Peak[xiv] using 30 previously unemployed people.[xv] This innovative BotSoc project, together with another in the Wolfgat Nature Reserve[xvi] involving the Cape Town City Council, were managed by Philip Ivey. Together, they provided a very important demonstration of the viability of using a labour-intensive approach.

3.7.4 Making the case for catchment management – Linking jobs to water

The Fynbos Forum task team driving this initiative to put the case for managing invasive aliens to government comprised local government, provincial conservation agencies, universities, state research organisations and NGOs. This broad grouping gave the resulting product a strong mandate and persuasive content. Official members of the team included Paul Britton (CCT, Parks and Forest Branch), Chris Burgers (Cape Nature Conservation), Richard Cowling (UCT, Institute of Plant Conservation), Christo Marais (Cape Nature Conservation), Brian van Wilgen (CSIR, Forestek) and Dirk Versfeld (CSIR, Forestek). They were supported by inputs from many others from the Fynbos Forum.

At the request of the Fynbos Forum, the Total Foundation, through WWF-SA, made a small grant to the CSIR for the production of the "roadshow." The presentation was put together by Brian van Wilgen and Greg Forsyth with inputs from the Fynbos Forum task team. It made the case for the need to control invasive alien plants in order to secure water supplies. It explained the negative impacts of alien invasive plants and proposed labour intensive methods of clearing as a solution. The objective of the roadshow was to demonstrate to decision makers how sound catchment management was the most cost-effective way of securing the Western Cape's water supply, and that it also had tremendous potential for job creation. The

xiv. Part of Table Mountain.

xv. Only 3 of the 30 people employed by this project had ever been on Table Mountain before. They were given training in clearing methods, health and safety, plant identification and chainsaw operation. The initial funding was for 6 months but additional support was secured from The City of Cape Town and the Western Cape Government. Murray and Roberts and Hightec also provided funding and equipment. Philip Ivey, pers comm 12 June 2018.

xvi. This project was put forward by the City of Cape Town as part of the Provincial Ministry for the Environment's contribution to President Mandela's 100 days of Reconstruction and Development programme. Paul Britton, pers comm 28 January 2018.

potential for a win-win alignment with the new government's Reconstruction and Development Programme was the core argument. The objective was to secure significant funding for clearing catchments.

The task group refined their target audience and approach with the assistance of Bun Booyens, the Communications Director of WWF-SA, and its new head Ian Macdonald (who had long been involved in invasive alien research and management). Instead of the roadshow targeting the broad audience of officials they had originally envisaged, on Bun's advice, they decided to target high-level decision makers. They therefore extended an invitation to the national ministers of Water Affairs, Agriculture and Environmental Affairs and to the provincial ministers of Agriculture and Environment to attend a presentation on the threat posed by invasive alien plants. Professor Kader Asmal, the National Minister of Water Affairs, and Kobus Meiring, the Provincial Minister of Environment, attended the presentation on 2 June 1995. Prof Kader Asmal immediately grasped both the seriousness of the situation and the potential of the proposed solution, making an initial informal call to Jay Naidoo (Minister in the Presidency) while still in the meeting. It can be argued that those 80 slides, containing the right information and presented to the right person, triggered a revolutionary change in environmental management in South Africa.

Working for Water archives

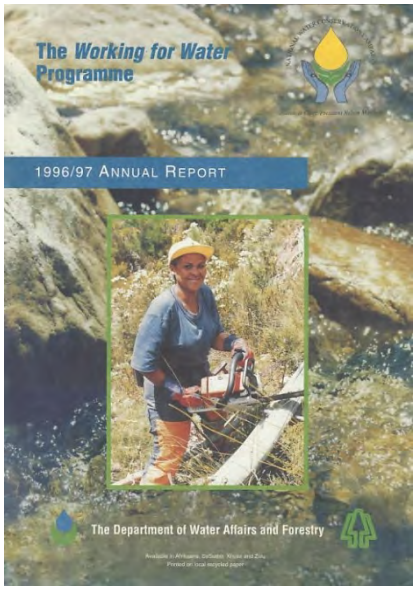
Kader Asmal, then Minister of Water Affairs and Forestry, with Working for Water team

Within four months of the presentation, R25 million had been secured from the Reconstruction and Development Fund and a significant alien clearing programme had been initiated. Both Kader Asmal's initial attendance at the meeting and the rapid subsequent deployment of this programme were facilitated by his special advisor Guy Preston—a long-standing campaigner for water conservation and demand management—who had been funded by WWF-SA to act as special advisor to Asmal as the Minister of Water Affairs and Forestry. He was supported by a dedicated management team led by Brian van Wilgen who was seconded from the CSIR, together with Francois van der Heyden and Caroline Gelderblom, to help run the programme and to support the Department of Water Affairs staff and those of the individual implementing agencies.

3.7.5 Early delivery secures ongoing support

Christo Marais, the operational manager of the Fynbos Working for Water Project, used the Fynbos Forum network to support the rapid establishment of an efficient management structure. The Western Cape had by far the biggest of the early Working for Water provincial projects. The strong management capacity of the region consequently made a significant contribution towards overall programme delivery, which in turn ensured that the Working for Water Programme continued to secure increased amounts of funding. In the first year of operation, it was the only Reconstruction and Development Programme (RDP) project that spent its allocated budget. As a result, the following year the allocation was increased and the project expanded. Increased funding allocations were secured from the RDP, and later funds were also raised through water

tariffs held in the Water Trading Account of the Department of Water Affairs and Forestry. Additional bridging funding was secured from foreign donors who wanted to support the new democratic government. The Working for Water Programme grew rapidly due to its ability to link a critical ecosystem service (water) directly with employment creation for the rural poor. Minister Asmal insisted that this new programme should be national in scope as the problem of invasive alien plants was not restricted to the Western Cape and the benefits of rural job creation were desperately needed in all provinces. The programme consciously targeted the poorest of the poor, trying to identify the long-term unemployed and providing jobs and training. The training went beyond the technical skills required to do the job and focused on the development of life skills and capacity building. It emphasised creating opportunities for disadvantaged groups, including people with disabilities, women and youth—creating jobs in underdeveloped rural areas where there were few other opportunities. Significant support was also provided for scientific research.



3.8 SECURING INTERNATIONAL SUPPORT FOR FYNBOS CONSERVATION

In addition to securing significant local support for clearing invasive alien plants, the region also succeeded in securing significant international funds for biodiversity conservation. At a meeting convened by the Fynbos Forum at Kirstenbosch in January 1995,[117] William Bond reiterated his proposal made to the 1993 Libertas meeting—suggesting that a formal proposal for fynbos conservation should be submitted to the GEF. In response, Brian Huntley[xvii] briefed the meeting regarding the GEF, indicating that it was important that proposal development was supported by "a bottom up, consultative, developmental approach." He indicated that the Fynbos Forum support was relevant in terms of facilitating broad consultation. Richard Cowling offered Wendy Paisley's secretarial assistance and some funds from the Institute of Plant Conservation to help put the proposal together. Christo Marais was tasked with contacting all municipalities and the Department of Environment Affairs and Tourism to indicate that the Fynbos Forum was intending to put in a proposal to the GEF and to invite comment. It was important to get political support for this initiative and so a small delegation visited Minister Khalako (Ministry of the Environment) who responded enthusiastically.

On the 2nd May 1995, the Fynbos Forum convened a workshop on "The Conservation Priorities in the Fynbos and Associated Job Creation Opportunities." The objective was to develop an international funding proposal that was shaped by broad-based community input. Invitations were sent out to the Fynbos Forum mailing list and 75 people attended—the diversity of the Fynbos Forum membership was evident: 30% of attendees were academics representing seven academic institutions; 30% were from central and regional government,

xvii. In 1994, Brian Huntley applied for GEF support for the National Botanical Institute. The GEF indicated that they would rather support a project than an institution. His interaction with the GEF and his international contacts would however, prove invaluable in informing the final successful proposal.

representing six government departments; 24% were from eleven independent NGOs; 12% were from eight local authorities and 4% were consultants or members of industry, representing three commercial organisations. This workshop was sponsored by the Institute for Plant Conservation (IPC), Cape Nature Conservation (CNC) and SAPPEX.[xviii]

The initial emphasis was to protect valuable biodiversity and to create jobs through the removal of invasive aliens, but when the government took ownership of the Working for Water proposal in June that year, the emphasis shifted to biodiversity conservation and support for WWF-SA's Table Mountain Fund.

Frieda Prinsloo

Caracal (*Caracal caracal*) at Rietvlei, Table Bay Nature Reserve

xviii. Notes for proposal writers were compiled by Leslie Shackleton from the Fynbos Forum Workshop on "Conservation Priorities in the Fynbos and Associated Job Creation Opportunities", Stellenbosch 2 May, 1995.

Box 3.5: A proposal to GEF

The initial concept put forward by Ian Macdonald of WWF-SA at a meeting convened at the Olsson's Brewery in January 1997 was to apply to the GEF for funds to capitalise the Table Mountain Fund (TMF).[118] With the encouragement of Francois Falloux of the World Bank, the scope was expanded to include a strategic plan to conserve the whole of the Cape Floristic Kingdom and to support the creation of a National Park on Table Mountain. The mandate of TMF was therefore increased to cover the whole of the Cape Floristic Region.[xix,119] WWF-SA, took this expanded proposal forward with the support of Richard Cowling of the Institute for Plant Conservation at UCT and David Daitz of SANParks. This group, together with their teams, undertook the backbreaking task of putting the Project implementation framework (PIF) together in record time.[xx] The initial GEF proposal that was submitted to the World Bank requested support for three major interventions:

- Start-up funding of US$ 6.3 million to support the establishment of a National Park in the Cape Peninsula, later to become known as the Table Mountain National Park.
- An endowment of US$ 5 million to supplement funds raised locally by WWF-SA to establish the Table Mountain Fund (see box 5.1 for full description).[xxi]
- Support of US$ 1 million for the development of a biodiversity strategy and action plan for the conservation of the Cape Floral Kingdom.

A separate request for US$ 3.1 million was made to the GEF through the United Nations Development Programme to support the establishment of the Agulhas Biodiversity Initiative.

In 1998, Richard Cowling reported back to the annual general meeting of the Fynbos Forum, held in Arniston that year, on the application to the GEF for funds for the conservation of the Cape Floristic Region: "The initiative to apply for funds came from the Fynbos Forum. The application, drawn up by National Parks, IPC, WWF-SA and others, has been successful."[xxii] This statement acknowledged the importance of the Fynbos Forum's endorsement, informed the region of this important development, and recognised that the actual work of putting together the proposal had been undertaken by SANParks, the IPC and WWF-SA, with support from others.

The 1999 Fynbos Forum annual conference at Reins Nature Reserve provided a report-back to the local community on the CAPE project. This report-back included a description of the science behind the systematic conservation plan and a workshop on conservation targets. Progress and plans for implementation of the strategic plan for the conservation of the Cape Floristic Region were discussed. This led to a formal endorsement of the project by the Fynbos Forum: "The chairman was asked to draw up a letter of support from the Fynbos Forum addressed to Glen Adams as Chairman of the CAPE committee." The next chapter describes how the implementation of CAPE impacted the region and the Fynbos Forum.

xix. The authors were both at the Olsson's Brewery meeting in January 1997 when this decision was taken.
xx. Interviews with David Daitz, 28 July 2016, and Richard Cowling, 6 June 2016.
xxi. About R10 million was raised locally and the GEF provided an additional R30 million.
xxii. Minutes of the 1998 Fynbos Forum AGM.

Cliff & Suretha Dorse

Disa racemosa; Leucospermum cuneiforme (Kouga Sandstone Fynbos); *Senecio cadiscus*

I had the privilege of attending quite a number of Fynbos Forum meetings at interesting venues – the Clanwilliam Hotel (1989), Genadendal (1997), Reins Nature Reserve (1999), Calitzdorp Spa (2001), Club Mykonos (2004). Later in my career I mainly presented on the UNESCO MAB Programme and its implementation through biosphere reserves. The Fynbos Forum meetings provided a great opportunity to create awareness about the MAB Programme and showcase the excellent work being done in biosphere reserves. The network of biosphere reserves in South Africa has subsequently expanded from only one in 1998 to the current ten, covering 9.5% of the country's land area. Fynbos Forum has always been, and still is, a great place for networking and communicating with a very wide range of researchers, which has helped shape my career over the years. (Ruida Pool-Stanvliet) [xxiii]

I attended my first Fynbos Forum in 1994 in Stellenbosch and have attended at least 10 forums overall. What struck me and kept my interest in the FF was the energy and enthusiasm of participants, and the camaraderie that developed between long standing participants. It was a great place to present new projects, even controversial ones, and share project progress. Being a bit of a party animal, another highlight for me was the after-hours socials, especially the Gala Dinner evenings! (Dean Impson)[xxiv]

xxiii. Ruida Pool-Standvliet, scientific services, CapeNature.
xxiv. Dean Impson, freshwater fish scientist at CapeNature.

Caroline Gelderblom

Those who started in the 1990s and who still enjoy attending the Fynbos Forum.
L to R: Karen Esler, Julia Wood, Dean Impson, Douglas Euston-Brown, AnneLise Schutte-Vlok, Wessel Vermeulen and Marlene Laros.

Cliff & Suretha Dorse

Orange-breasted Sunbird *(Anthobaphes violacea*), a fynbos endemic

Flower Valley Conservation Trust archives / Kobus Tollig Photography

Wild flower harvesting at Flower Valley

CHAPTER 4: THE 2000s — SUPPORTING IMPLEMENTATION

4.1 REGIONAL CONTEXT

4.1.1 Increased Funding and Strengthened Institutions

Powerful links were established between science, policy, planning and implementation in South Africa in the 2000s. Many new laws and structures were developed as part of the democratic change, enabling best practice to inform the development of policy and institutions.

After several years of operation controlling invasive alien plants through Working for Water, the scope of work expanded to address the closely linked challenges of wildfire management and wetland rehabilitation. In 2000, a programme was established to focus on the rehabilitation of Wetlands. In 2003, the Working on Fire Programme was initiated, developing highly specialised capacity to manage wildfires. These new programmes were based on the model established by Working for Water—creating jobs through labour-

intensive environmental management. In time, additional "Working for" programmes were established to address the rehabilitation of land, forests and coast. Collectively called Natural Resource Management (NRM), these projects formed an important component of the South African government's Expanded Public Works Programme (EPWP).[i]

The 2000s also saw a number of changes in the conservation agencies. The Western Cape Provincial Conservation Agency became the Western Cape Nature Conservation Board, and with this, came a greater focus on financial sustainability and tourism.[ii,iii,iv] The Eastern Cape Parks Board was formed in 2003.[v] In 2000, there was reorganisation at a municipal level with several large metros being created from a number of smaller units. Two large metros created in the fynbos region were the City of Cape Town and Nelson Mandela Bay Municipality. Both metros actively supported nature conservation. The creation of district municipalities with a jurisdiction that extended beyond the built environment to include rural land had significant implications for conservation. In 2002, the National Research Foundation (NRF) established the South African Environmental Observation Network (SAEON) to support long-term ecological research. This included a Fynbos Node at Kirstenbosch (the Fynbos Forum helped facilitate the discussions that supported this process).[vi] The South African National Parks Board established the Cape Research Centre in 2008 to support its increasing number of parks in the region.

South Africa's emerging status as a stable democracy drew international donors and visitors, reversing the isolation that had characterised the apartheid years. There was a significant increase in resources available for conservation of the fynbos. Substantial international and local investment was catalysed by the Global Environment Facility (GEF) and the Critical Ecosystem Partnership Fund (CEPF), which invested in the Cape Action for People and the Environment Partnership Programme (CAPE). Other international donors included Conservation International and Flora and Fauna International. An important component of this inflow was increased support for local non-governmental organisations (NGOs) through funding for specific projects, the creation of small grants facilities and the capitalisation of the Table Mountain Fund (see boxes 3.5 and 5.1 for details). Local NGOs, such as WWF-SA[vii] and the Botanical Society of South Africa (BotSoc), grew in size, enabling them to support Biodiversity Stewardship programmes and Business and Biodiversity Initiatives.

i. The EPWP was the new institutional framework used to house all job creation projects including those focused on NRM, such as Working for Water (WfW) and Working on Fire (WoF).
ii. Cape Nature Conservation Board Act 15 of 1998.
iii. Effective 1 April 2000 in terms of the Western Cape Nature Conservation Laws Amendment Act 3 of 2000.
iv. In 2004, the newly formed Western Cape Nature Conservation Board launched a new logo and became known as CapeNature.
v. Provincial Parks Board Act 12 of 2003.
vi. Johan Pauw of the NRF asked for inputs from the Fynbos Forum and a number of supportive workshops were held.
vii. Was the World Wide Fund for Nature and then became WWF in 2001.

Box 4.1: The impact of CAPE[viii]

The goal of CAPE was to "support the conservation and restoration of the biodiversity of the Cape Floristic Region (CFR) and the adjacent marine environment, while delivering significant benefits to the people of the region." With its substantial international funding, CAPE was able to mobilise local support for many priority projects. In its first decade alone, it secured over US$ 34 million in international support, with the South African government providing nearly three times that amount in co-funding. This intervention changed the face of conservation in the region, pioneering many new approaches.[ix]

The final strategy and implementation plan was formally presented to donors, political leaders and the local conservation community in September 2000. The proposal for additional support for the implementation of the CAPE Action Plan for the Environment was submitted to the GEF and accepted. The outcome was the establishment, in 2001, of the institutional partnership—known as the Cape Action for People and the Environment (CAPE). The main external grants were:

- 2002: a substantial bridging grant of US$ 6 million from the CEPF supported the establishment of a coordination unit and 65 initial projects aligned with the CAPE strategy.[x,120]
- 2003: a US$ 3.1 million GEF grant, made through the United Nations Development Programme (UNDP), for the Agulhas Biodiversity Initiative (ABI), which had made a separate application.
- 2004: the GEF main grant of US$ 11 million was donated through the World Bank and UNDP for the Biodiversity Conservation and Sustainable Development (BCSD) project.
- 2008: US$ 1.65 million was provided by the Critical Ecosystems Partnership Fund to sustain the gains made by key projects during the initial CEPF investment.

The donor investment in the region through CAPE was transformative—contributing to the strengthening of new institutions such as the South African National Biodiversity Institute (SANBI) and the Table Mountain Fund (TMF). It influenced the re-structuring of the provincial conservation agency and promoted greater regional engagement from the South African National Parks Board (SANParks). CAPE also made significant contributions to policy frameworks, including the regional spatial development framework, the establishment of biodiversity guidelines for environmental impact assessment (EIA) and the development of incentives to encourage stewardship of biodiversity on private and communal land. This investment facilitated the establishment of landscape initiatives[xi,121] such as the Agulhas Biodiversity Initiative and the Baviaanskloof Megareserve, both of which included strengthening of traditional protected areas as well as working with local stakeholders to improve conservation in the broader landscape.

viii. Cape Action Plan for the Environment was the initial name of the proposal submitted to the GEF in 2000. As soon as implementation started in 2002, it was renamed Cape Action for People and the Environment and the acronym included full stops between each letter C.A.P.E. The full stops were dropped by the end of the decade and it became known as the Cape Action for People and the Environment Partnership Programme using the acronym CAPE.

ix. By 2017, the partnership had expanded to 38 institutions, which included national and provincial government departments, conservation agencies, municipalities and NGOs.

x. CEPF focused on funding civil society led projects and also supported the establishment of Landscape Initiatives in the Cederberg, Baviaanskloof and Gouritz as well as strengthening the West Coast Biosphere Reserve.

xi Integrated engagement with local role-players to promote biodiversity conservation and sustainable development at an appropriate scale (includes corridor initiatives, mega-reserves and biosphere reserves.)

Kristal Maze

Gwen Mahlangu, Brian Huntley and Vali Moosa celebrating the signing of the CAPE MOU

A surge of international visitors came through their engagement with large projects such as CAPE and BIOTA,[xii] or through increased activity in academic networks. Several large international conferences were held in South Africa during this decade, including MEDECOS, which was led by Karen Esler and involved many members of the Fynbos Forum.[xiii]

The focus on the Cape Floristic Region developed national and international awareness of the importance of this region's biodiversity. The resulting injection of funds enabled the region to innovate and develop best practice approaches, putting projects and practitioners at the cutting edge both nationally and internationally.

Under the leadership of Kristal Maze, and later Julia Wood, the Fynbos Forum continued to provide a meeting space for all interested in conservation, where communication was maintained within an ever-broadening regional conservation network. This created an important vehicle for the exploration of the innovative new approaches being piloted in the region. It was used by CAPE, TMF and other organisations to showcase projects, explore research, promote promising students and to hold training sessions, workshops and award ceremonies (see box 4.2).

Kristal Maze

The initial CAPE team at the Fynbos Forum in 2004: Amanda Younge, Trevor Sandwith and Mandy Barnett.

Cliff & Suretha Dorse

Codonorhiza corymbosa, endangered

xii. BIOTA: (Biodiversity Monitoring Transect Analysis) This southern Africa project was an interdisciplinary and international research project that carried out a range of biodiversity-related research activities in Namibia and western South Africa from 2001 – 2010.

xiii. Other important conferences held in South Africa in the 2000s were the World Parks Congress in 2003 and the Earth Summit in 2002.

Box 4.2: The relationship between the Fynbos Forum and CAPE

The convening power of the Fynbos Forum was used to support the establishment of CAPE, giving the newly developed strategy and action plan exposure. Once the programme got underway, it provided a platform for it to engage with the region:

- In June 2000, the proposed CAPE strategy was presented during the Fynbos Forum as part of the local stakeholder engagement process.
- The newly appointed CAPE coordinator, Trevor Sandwith, gave the opening address at the 2001 Fynbos Forum conference at Calitzdorp and outlined the proposed approach for the implementation of CAPE. At its annual general meeting that year, the Forum adopted a resolution to strengthen its relationship with the CAPE process.[xiv]
- The Fynbos Forum conference in 2002, at Goudini, started with an update on both the CAPE partnership and the Table Mountain Fund projects.
- The 2003 Fynbos Forum conference hosted workshops on the development of a research strategy and proposal development in support of CAPE.
- In 2004, the main CAPE grant was awarded and this was the central focus of the Fynbos Forum conference that year, with the conservation community being updated on progress and on opportunities to get involved. CAPE continued to give out its awards at the Fynbos Forum until 2007.

After the CAPE partnership was well established and had begun to convene conferences under its own name, it continued to use the Fynbos Forum meetings extensively because the two organisations complemented each other. Internal CAPE conferences focused primarily on formal organisations and consisted largely of report-backs on projects and the future plans of grant recipients. Attendance was by invitation only. In contrast, the Fynbos Forum continued to be open to any individual, allowing a wider grouping to participate in exploring new concepts and discussing the implications of research for conservation. The CAPE partnership used the Fynbos Forum extensively as a vehicle to report back on progress. In order to build regional capacity, CAPE staff used the Fynbos Forum annual conference as a platform for training workshops on proposal development. Relationships built through the Fynbos Forum networks assisted the development of collaborative proposals that spanned different interest groups. CAPE also used the Fynbos Forum to present its conservation awards. The Fynbos Forum was formally tasked with identifying research priorities for the CAPE partnership (see section 4.5.10). Although there was considerable pressure for the Fynbos Forum to become a formal component of CAPE, it was decided that it was important for it to remain independent and accessible to all. It nevertheless continued to work closely with the CAPE partnership.

xiv. Minutes of the 2001 Fynbos Forum AGM.

4.2 DRIVERS IN THE 2000s

4.2.1 Institutional structures that supported the Fynbos Forum

Bruce Mackenzie, as director of BotSoc, was very supportive of the Fynbos Forum, welcoming it to run as one of the BotSoc projects, hosting the secretariat and playing a key role by providing bridging funding until income was recovered from registration fees. Although the Fynbos Forum made a small contribution towards these administrative costs, the fees paid did not cover the actual resources used. BotSoc staff also played a central role in the leadership of the Fynbos Forum during this decade.

The NRF[xv] continued to provide R30 000 annually to the Fynbos Forum, placing particular emphasis on encouraging student participation. This support was motivated by Professors William Bond, Jeremy Midgley and Richard Cowling of the Botany Department at the University of Cape Town (UCT), who submitted the annual funding application on behalf of the Fynbos Forum.

CAPE, SANParks and TMF all stepped in to help in 2004 when a huge increase in the size of the annual conference at Mykonos presented a problem as costs doubled and there were insufficient funds to cover the deposits. Several private organisations and individuals also helped with the shortfall.[xvi] Julia Wood, the new chair, and Wendy Paisley, the conference coordinator, motivated widely to secure this additional bridging finance. For the remainder of the decade, they managed the finances tightly so that savings accumulated and there were sufficient funds to ensure that the conference was sustainable. These funds also enabled the Forum to subsidise the attendance of students and other participants who were unable to pay the full fees.

Gigi Laidler

Ismail Ebrahim, CREW, started attending the Forums in 2000s, becoming a frequent presenter. He is seen here receiving an award from Dipolelo Elford, DEA at the Fynbos Forum 2007.

TMF also provided significant ongoing support for over 44 students, 34 managers (particularly from CapeNature) and 15 NGO representatives. The international BIOTA project also provided funding for students and fieldworkers from Germany, Namibia and South Africa to attend the interfaces conference in Oudtshoorn in 2008 (box 4.3). The Fynbos Node of SAEON started sponsoring visiting international academics in 2009, consciously targeting their visits to coincide with the Fynbos Forum conference so that they could provide keynote addresses.

xv. This was provided by the Conservation Management of Ecosystems and Biodiversity focus area within the NRF.

xvi. Private organisations and individuals supporting the 2004 meeting included Ninam Shand, the Nature Conservation Corporation (Dean Ferreira), Envirocentrics (James Jackelman), Ian MacDonald, Amanda Younge-Hayes and David Waddilove.

4.2.2 Implications of the rapid growth in the 2000s

The early 2000s were characterised by substantial growth in numbers at the annual conferences, which changed the intimate and casual nature of the meetings. The average number of participants more than doubled, from about 100 in the 1990s to over 260 in the 2000s. The increased size of the annual meetings meant that the smaller, informal and often makeshift locations were exchanged for larger, more conventional conference venues. These new venues did have the advantage of better insulation and projection facilities, but many missed the earlier intimacy and stoic camaraderie. The meeting venues were, by mutual consent, returned to more informal venues later in the decade.

Karen Esler

Koeksisters in the Karoo at the 2008 Interfaces Conference.

The increased size meant that a broader range of issues could be addressed in workshops and on field trips. The practice of accepting all papers and posters submitted was maintained as a fundamental principle and is still practised today. This meant that, from the 2001 Calitzdorp meeting until 2012, the meetings had to run parallel sessions. This created an agony of choice as many were interested in several topics. It was necessary to maintain accurate timekeeping, and swapping between sessions proved challenging at times. Workshops were still used to facilitate in-depth debate, and many gave rise to significant outcomes.

Kristal Maze

Paul Britton giving his after dinner speech.

At the 2003 Hartenbos meeting, the field trips were moved from the beginning of the meeting to the middle to allow people more time to interact and to recover from the intensity of the parallel sessions. An informative field trip that year examined the impact of the exit of the South African Forestry Company (SAFCOL) from the area around Montagu. As the meetings grew, the diversity of the trips increased. In 2004 at Mykonos, there were several field trips, including the West Coast flowers, the wetlands and underground water in the Saldanha area, fine-scale planning on the Langebaan Peninsula, a trip to the fossil park, and a boat trip to see the birdlife on the islands of the West Coast National Park. For a time, special talks were presented over dinner: speakers included Paul Britton (2000, Ganzekraal), Christo Marais (2001, Calitzdorp), Roy Siegfried (2002, Goudini), Eugene Moll (2003, Hartenbos) and John Yeld (2007, Club Mykonos). These were later discontinued to allow more time for informal socialising.

Fynbos Forum archives

2008

George Davis

2009

Fynbos Forum archives

2009

Karen Esler

2009

Fynbos Forum field trips

George Davis

Participants exposed to cultural assets,
Fynbos Forum 2009 field trip.

Despite the increased size of the meetings, in her new role as chair, Julia Wood ensured that the fun continued and a memorable party that included togas, smashing plates and ouzo was held at Mykonos in 2004, all to the sound of Don Kirkwood's Dad's Band. In 2005, Pine Lodge referred to the conference as the "Funbos, Forum," and the tradition continued with Zohra Parkar's uncle running a disco at the 2005 Fynbos Forum. A relationship initiated at the 2004 Mykonos meeting led to the marriage of Cliff and Suretha Dorse in 2008. As the Fynbos Biome correlates strongly with the Cape Winelands, wine-tasting continued to play an important role in the Fynbos Forum programme. Hot springs were another recurrent theme in this decade—the combination of the two sometimes proving problematic. In 2006, David Waddilove demonstrated his negotiating skills by persuading staff to unofficially extend the opening hours of the Goudini springs to allow delegates more time to enjoy the facilities. The most memorable journey was undertaken in 2007 by Pam Booth, who tried to keep her carbon footprint low and consequently missed the opening of the meeting (she was also grateful for shelter from the rain when her tent did not keep her quite as dry as she had hoped).

Dennis Laidler

Fynbos Forum 2004

Karen Esler

On the way to Interfaces 2008.

Box 4.3: Interfaces Conference 2008

A joint meeting of the Fynbos Forum and the Arid Zone Forum was suggested by Karen Esler of the Department of Conservation, Ecology and Entomology at Stellenbosch University (SU). As she had long been a member of both the Fynbos Forum and the Arid Zone Forum, she was ideally placed to act as the chair of the Interfaces organizing committee. She was supported in this initiative by the two chairs, Julia Wood (Fynbos Forum) and Colleen Seymour (Arid Zone Forum) and their respective secretariats, Wendy Paisley and Tessa Oliver. Both organisations are affiliations of researchers, planners, managers, landowners and other stakeholders from the environmental and conservation sectors that facilitate networking and information transfer by hosting annual meetings. These adjacent biomes share many issues that extend beyond their boundaries. Karen felt that "the time was ripe to explore commonalities and differences." The aim of the Interfaces conference was to allow members of the two organisations to seek common ideas and inspiration across the biome boundaries.[122] Oudtshoorn was chosen as it is situated in an area that includes interfaces between the fynbos, succulent karoo and subtropical thicket biomes. This very successful meeting attracted 366 delegates, making it the largest and most diverse meeting ever. It facilitated robust debate about biome transitions and interfaces and included a farmers' day and a visit to a spekboom project.

Fynbos Forum archives

Interfaces 2008 Farmers' Day

Fynbos Forum archives

Jan Vlok leading a field trip at Interfaces 2008.

4.3 LEADERSHIP AND COORDINATION

Kristal Maze

William Bond and Kristal Maze

In 2001, Christo Marais handed over the chairing of the Fynbos Forum committee to Kristal Maze, who chaired the 2002 and 2003 meetings. Kristal was director of the Conservation Unit of the Botanical Society and fought tirelessly to support biodiversity conservation and to prevent inappropriate development. She also represented the Forum on several provincial bodies. Kristal resigned at the 2003 meeting when she relocated to Gauteng to take up the position of Director of Biodiversity in the newly formed SANBI.

On Kristal's resignation, Julia Wood was voted in as chair; this followed her six years on the committee (two as vice-chair). She was able to shepherd the Forum through its biggest growth period, making sure that it remained true to its central principles as an open platform supporting fynbos research and conservation. Julia had moved from the City of Cape Town to manage TMF a month before being elected as Fynbos Forum chair. She enthusiastically integrated her two roles by

encouraging projects and partners to present their work at the Forum. In 2005, Julia returned to the City of Cape Town but continued to chair the Fynbos Forum until 2011. (In 2018 she is still serving on the committee.) Her indefatigable belief in the ability of individuals to make a difference has become part of the ethos of the Forum, and with her encouragement, much was achieved.

Gigi Laidler

Wendy Paisley and Julia Wood,
Fynbos Forum 2007

In 2001, the important task of coordinating the annual conference was taken on by Wendy Paisley, who was secretary of the Cape Conservation Unit of BotSoc at the time. Wendy was the primary interface between the Fynbos Forum and attendees during the 2000s—always patient with late submissions, encouraging people to attend and then giving everyone a genuine welcome when they finally arrived at the meeting. She kept a motherly eye on new participants and made sure that they were drawn into the social interactions. She dealt with an increasing variety of dietary requirements with utmost patience—including pacifying hungry people whose special meals had been accidentally taken by the wrong people.

Shortly after becoming coordinator, Wendy Paisley established an invaluable email database, which was the primary means of communicating information about meetings. It was also used to circulate information on the numerous job opportunities and potential contracts within the rapidly growing conservation sector. Within a few years, the majority of jobs within the sector were filled through advertisements distributed via Wendy's list. She also provided huge support for Julia Wood as she juggled her career with the needs of the Forum and raising two young children.

Gigi Laidler

Wendy at registration desk, Fynbos Forum 2004

Christo Marais and Maryke Middelmann both stayed on the committee until 2005—each giving a remarkable 15 years of service. Christo actively encouraged the participation of the rapidly expanding NRM component of the EPWP, thereby helping to maintain the interaction between science and management. The Forum was particularly important to the Working for Water and the Working on Fire Projects. Maryke kept invaluable records of the meetings and generously continued to provide floral decorations and thank-you bouquets.

Caroline Gelderblom

Participants at the Fynbos Forum

Gigi Laidler

Connie Krug handing out a prize at the Fynbos Forum 2007.

From 2005, the provision of bouquets was taken over by Lesley Richardson of Flower Valley, who became a very active participant, leading many workshops on sustainable resource use. Mark Botha of BotSoc and later of WWF-SA served on the committee for 10 years, acting as vice-chair for part of this period and assisting with administration for several years. Aziza Parker of CAPE was a committee member for nine years, helping to facilitate the close relationship between the two organisations. Connie Krug of UCT served for seven years on the committee and was vice-chair for three years, using this platform to support lowland conservation. Connie developed the paper and poster evaluation process that is still in use today.[xvii, xviii] Connie also played a role with Julia Wood, Trevor Sandwith and Onno Hyuser in initiating the Innovation Scholarships (box 4.4).

During this period, it was agreed that members of the committee would chair most of the Forum sessions: Julia Wood, Pat Holmes, Guy Palmer and Xola Mkefe were particularly active as session chairs. Tony Rebelo and Zwai Peter were also called on to chair sessions. Xola and Tony could both be counted on to deliver particularly entertaining sessions. Richard Knight (UWC) took on the task of managing the audio-visual support with the help of his students.

Gigi Laidler

Xola Mkefe

xvii. Others who were involved in paper evaluations in this decade included Sandy Fowkes, Zohra Parkar and Tamaryn Khan.

xviii. Don Kirkwood and Guy Palmer (CapeNature), Richard Knight (University of the Western Cape [UWC]), Xola Mkefe (SANParks), Pat Holmes (private consultant), Matthew Norval (Wilderness Foundation), Zohra Parkar (TMF), Ed February (UCT), Karen Esler (SU), Ismail Ebrahim (SANBI), Rupert Koopman (CapeNature), AnneLise Schutte-Vlok (CapeNature) and Jay Reeler (UWC) all provided substantial service to the committee during the 2000s.

This period was particularly challenging from the audio-visual perspective as it involved a transition from slides to overhead projectors, and then to computer-based presentations. Ranier Krug was also involved in the early years until Jay Reeler, a UWC postgraduate student, took over the supervision of this task in 2008. Jay also created a webpage for the Forum. Others involved over the decade in the audio-visuals were Jason Ely, Ryan Blanchard, Faghrie Mitchell and Jeffery Manuel.

Gigi Laidler

Jay Reeler and Rupert Koopman share some wine with Rhett Hiseman, Fynbos Forum 2007.

During the 2000s the Fynbos Forum was sad to lose several members who had made exceptional contributions to fynbos conservation. Francois van der Heyden, who had played an important role as one of the first black members of the Fynbos Biome Project and an important member of the early Working for Water management team, passed away in 2002 while working on the CAPE project, which was then dedicated to him. In 2006, the Goudini Forum was dedicated to Elsie Esterhuysen, who, although she had little to do with the Fynbos Forum, had a profound influence on fynbos species collections and on many of the Forum participants. Walter Middelmann, a long-standing leader of the sustainable wildflower industry, had attended every meeting until 1998 and attended again in 2000 aged 90. After his passing in 2006, the 2007 Club Mykonos Forum was dedicated to him in recognition of his enormous contribution. After Theo Manuel's death in 2008, an award was created to honour his contribution to environmental education (see box 5.4 in 5.5.2 for details of the Award created in his memory). Chris Burgers, who had made an enormous contribution in motivating for the Working for Water Programme, among many other spheres, also passed away in this decade. In recognition for his passion for the conservation of fynbos, the Fynbos Forum book *Fynbos Ecology and Management* was dedicated to him (see section 5.5.3). The 2009 Fynbos Forum was dedicated to Diana Durrant who had supported conservation in the Bredasdorp area for many years, including accommodating many scientists on her farm Springfield. Springfield was later incorporated into the Agulhas National Park.

Caroline Gelderblom

Breede River Valley

4.4 NETWORK ANALYSIS

4.4.1 Organisational profile – Increasing diversity

In the 2000s, participants came from many different organisations and sectors, increasing the diversity of the Forum significantly. This was driven largely by the diverse projects initiated by CAPE. A large proportion of the new attendees were involved in management. As a result, for the first time, statutory bodies contributed over 40% of the attendees, overtaking university attendees as the most numerous group.

Gigi Laidler

John Yeld (formally of The Cape Argus) attended many Fynbos Forums, writing numerous popular articles on the Forum.

The most dominant of these statutory bodies was CapeNature (figure 4.1). This was not surprising given their legislative responsibilities and active involvement in projects funded by CAPE. Analysis of the presentations in this decade shows that CapeNature contributed 10% of all presentations, outstripping all other organisations except for Stellenbosch University. SANBI's responsibility for the management of the CAPE partnership led to that organisation playing a significant role as well—presenting almost 9% of the papers and often chairing sessions. SANParks also increased their contribution to nearly 4% of authors, reflecting their involvement in ABI, the Garden Route components of CAPE and the establishment of the Table Mountain National Park. Encouraged by Julia Wood, the City of Cape Town contribution doubled, to make up 6% of presentations.

Gigi Laidler

Fynbos Forum 2007

NGOs and community-based organisations (CBOs) played an increasingly important role in the conservation of the region during this time, and their participation increased from 1% to 10% of attendees (figure 6.5). They played an increasingly active leadership role in the Fynbos Forum, providing most of the chairs and over 20% of committee members. From 1999 to 2003, BotSoc supported Kristal Maze in her role as vice and chair. WWF-SA had helped drive the application for the CAPE funds and was consequently appointed as trustee of the newly established TMF. TMF played a critical role in the conservation of the region. It actively supported the Fynbos Forum and provided funding for priority projects. It also supported the attendance of students and others with limited finances. TMF leaders and staff were very involved in the Fynbos Forum, starting with Julia Wood, Zohra Parkar and Rodney February, followed by Onno Huyser, all

of whom served on the committee while involved in TMF. TMF also required funded project managers to attend the Fynbos Forum and to present on their projects.

Private consultants also became more actively involved in the Fynbos Forum, and their numbers increased fivefold. This reflected their involvement in the implementation of CAPE and other projects, and a general increase in the prevalence of consultants in the sector. For consultants, the opportunity to network provided by the Forum was particularly important as many worked on their own and attended few meetings. Many of these independent consultants had left the formal conservation organisations during the institutional restructuring of the 1990s. Others were new entrants to the field—many the products of growth in master's programmes in conservation and environmental management. There was also a growing tendency for women to choose consultancy as a more flexible option rather than leaving the field entirely as they raised their families. Several were actively involved in the leadership of the Forum.

Karen Esler

Back Row L to R: Raphael Kongor, Sandy Siqueira, Karin Neethling, Karen Esler, Leanne Dreyer, Connie Krug
Front Row L to R: Sarah Muhl, Johlene Zietsman, Rembu Magoba, Fynbos Forum 2005

Even though the absolute numbers of academics nearly doubled, their relative dominance decreased because the overall numbers were increasing even faster. Stellenbosch University (13%) overtook the University of Cape Town (8%) in terms of their contribution to the programme. As is discussed in more detail later, this was a result of top academics such as Karen Esler, Sue Milton and Dave Richardson joining Stellenbosch University. Karen played a particularly important role as coordinator of undergraduate programmes, first in Botany and Zoology and later in Conservation Ecology, where she actively encouraged students to attend the Fynbos Forum. From 2003 onwards, it was compulsory for all Stellenbosch honours students in the Botany and Zoology departments to attend a local conference and many chose the Fynbos Forum. The University of the Western Cape (UWC) also increased its involvement to 5% of presentations due to the active encouragement of Richard Knight, who mentored many students, including a future chair of the Fynbos Forum, Rupert Koopman. Students made up nearly 20% of attendees at this time, and the Forum remained an important launching pad for young conservationists.

In addition to an increase in the diversity of organisations involved in the forum, there was also an increase in sectoral diversity (figure 6.6). This was associated with a conscious effort to mainstream conservation into other sectors through various interventions, many of which were sponsored by CAPE. For example, stronger links were established with agriculture through Biodiversity Stewardship programmes. Representatives from provincial agriculture and private farmers consequently became more involved in the Fynbos Forum. The

implementation of CAPE was also associated with a marked increase at the Forum of those involved in the planning sector. CAPE helped facilitate collaboration with the provincial Department of Environmental Affairs and Development Planning, developing spatial mapping tools that fed into local government Spatial Development Frameworks. TMF funded the Fynbos Forum to develop guidelines for the sound inclusion of biodiversity assessment in EIAs (see section 4.5.3). This increased the relevance of the Forum to provincial and local government officials engaged with planning as well as to the consultants who supported them. Another new group of attendees during this time were those from government organisations responsible for governance and the development of policies.

Julia Wood

Baviaanskloof

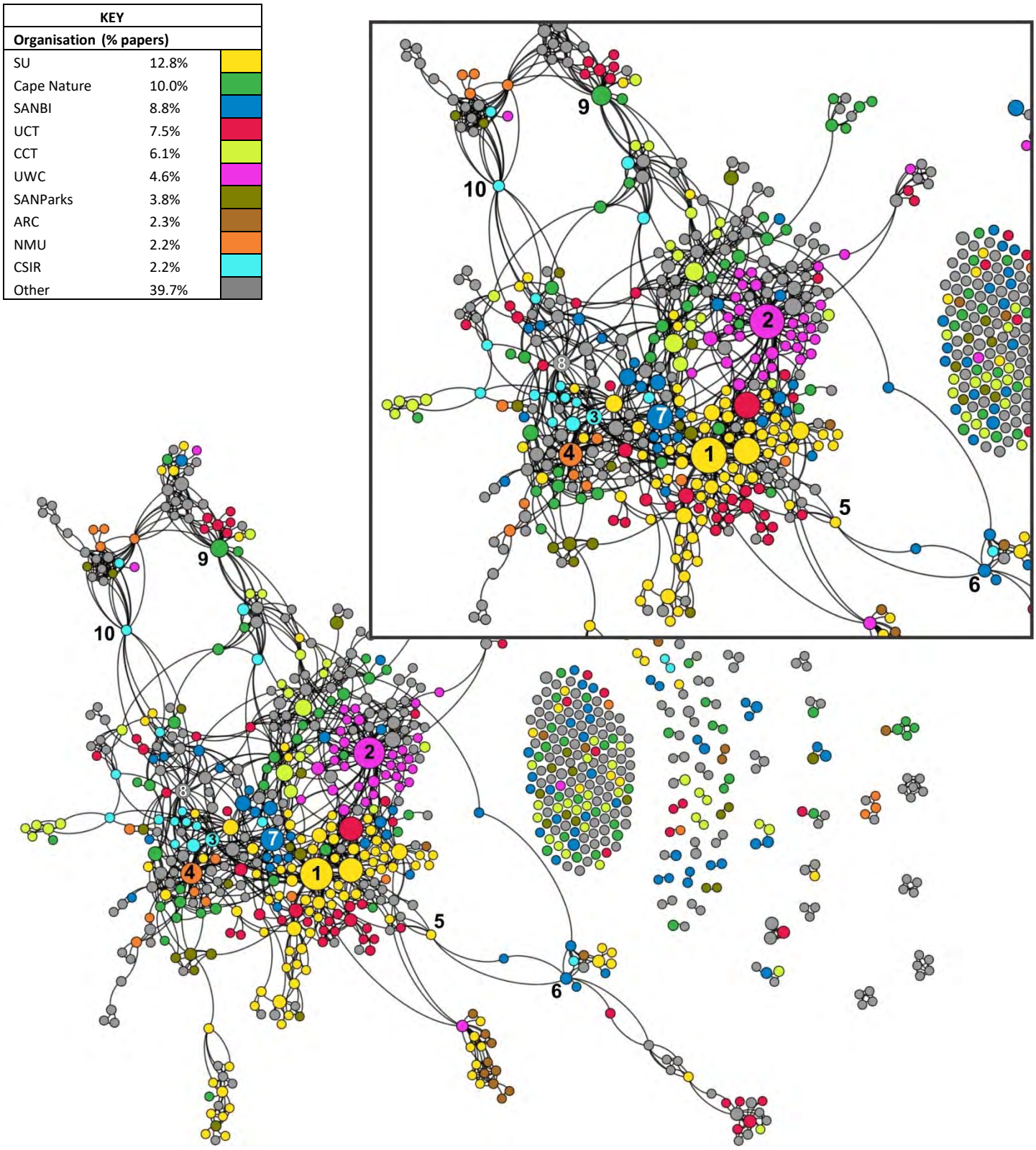


Figure 4.1: Connectivity in the 2000s indicating the size and density of the network as well as the relationships and organisational affiliations of those within it.

Figure 4.1 continued from pg 93

The network measure depicted by the ranks in this diagram is "betweenness centrality", which identifies individuals connecting otherwise remote areas of the graph. Each point represents a member of the network who presented papers during the annual meetings. The 10 individuals with the highest scores are labelled: 1 = Karen Esler (US), 2 = Richard Knight (UWC), 3 = Brian van Wilgen (CSIR), 4 = Richard Cowling (NMU), 5 = A Mills (SU), 6 = John Donaldson (SANBI), 7 = Tony Rebelo (SANBI), 8 = Mathieu Rouget (UCT later SANBI), 9 = Dean Impson (CapeNature), 10 = Jeanne Nel (CSIR). The size of the point represents the number of connected papers the member presented and the shading of the points reflects the member's organisational affiliation. The key also provides an indication of the percentage of papers presented by the 10 organisations whose affiliates presented the most papers. Grey shading indicates a member who is affiliated to an organisation that is not in the top 10. Lines indicate co-production of papers. The total number of authors tripled to 857; they are connected by 1504 links and the density of the network is 0.004. The giant cluster doubled in size and now comprises 57% of the authors and 84% of the links, indicating a high level of interaction.

4.4.2 Important contributors to the formal programme

Karen Esler (SU[xix]) and Richard Knight (UWC[xx]) were the two highest ranked individuals for all four assessed network characteristics (figure 4.1, above). They had the highest number of connections, produced the largest number of papers, linked the most diverse groups in the network and were close to other highly connected people. Both were heading up postgraduate programmes in their respective universities during this period. They played a critical role as mentors—linking their students and others in their institutions with the broader network and encouraging them to attend the Fynbos Forum. Richard had been involved in the network since the Fynbos Biome Project days, whereas Karen had been more involved in work in the Karoo in the 1980s and 1990s. She had served as the South African representative on the International Society for Mediterranean Ecologists since 1997, providing an important link to researchers in the other four Mediterranean climatic regions. In 2000, she was involved in the organisation of the International Mediterranean Ecosystems Conference (MEDECOS) at Stellenbosch University. Through her involvement in BIOTA, she also encouraged international students to attend the Fynbos Forum.

During this period, Richard Cowling moved from UCT to Nelson Mandela Metropolitan University[xxi] (NMMU) and became engaged in a number of other networks in addition to the Fynbos Forum. This meant that he continued to play an important role as a link, but on a broader scale than is measured here. Nevertheless, he contributed significantly to the increased prominence of NMMU within the Fynbos Forum. He delivered five keynote addresses in this decade.

Brian van Wilgen became the most important link between his organisation, the CSIR, and the rest of the network during this period, reflecting his leadership of the scientific support for the Working for Water Programme as well as his continued interest in fire management. John Donaldson, Tineke Kraaij, Alf Botha and Rhoda Malgas were also significant in this period and all linked the core network to otherwise separate disciplines.

xix. Esler contributed to 39 publications in collaboration with 51 individuals.

xx. Knight co-produced 37 presentations with 57 authors during this decade.

xxi. The Nelson Mandela Metropolitan University became the Nelson Mandela University (NMU) in 2017.

4.4.3 Transformation

> *Following the new democracy, there was massive pressure on conservation agencies to transform and become more representative of the demographic profile of the country. This meant that sometimes people from a non-conservation background were appointed in project management positions in the NRM programmes. More often than not, these people were passionate and knowledgeable about socio-economic development, which is a prerequisite for the successful implementation of public employment programmes, but they had very little knowledge of the sciences involved in natural resource management. There were few opportunities for these social scientists to learn about the natural sciences. The Fynbos Forum meetings provided a platform for them to learn and to get involved in the debate. As the programmes grew, more and more people started presenting on "non-mainstream fynbos topics", to the point where it is now a mixture of both.(Christo Marais)*[xxii]

At any point in time, the Fynbos Forum largely represents the gender and racial dynamics of the conservation sector, so the widespread transformation of post-apartheid South Africa had a significant and positive impact on the profile of the Forum. In particular, the creation and growth of new structures, such as the EPWP NRM Programmes and SANBI, with the associated influx of many new people, contributed significantly to transformation in terms of both race and gender. The CEPF capacity-building programme supported the attendance of many black and female participants in 2003, 2004 and 2005 in a conscious effort to use the Fynbos Forum to promote transformation through providing the opportunity to present work and to network.

The proportion of female attendees increased from 27% in the 1990s to over 45% during the 2000s. As women moved into more senior positions, the percentage of women at the heart of the Fynbos Forum network, as measured by their contribution to papers, increased to nearly 40%. Transformation was also reflected in the increased diversity on the committee as well as in the chairs of meetings. The first black committee members were appointed during this period. The number of black attendees climbed steadily to reach over 30% by the end of the decade. From the 2005 Pine Lodge meeting in Port Elizabeth until the 2010 meeting at Citrusdal, a variety of significant political leaders were invited to present keynote talks and a concerted effort was made to ensure that the opening session was representative of all sectors of society. CAPE, TMF, the NRM component of the EPWP and the major conservation organisations all appointed black managers. During this decade, four black individuals were ranked in the top 20 network scores; these included Ismail Ebrahim (SANBI) and Rhoda Malgas from the NGO Indigo Development and Change, both of whom continued to play an important role over the next decade.

4.5 IMPORTANT OUTCOMES DURING THE 2000s

The significant international and local support provided during the 2000s enabled the region to develop several cutting-edge approaches. The region was an international leader in conservation planning, incorporating biodiversity considerations into EIAs and development planning processes, encouraging

xxii. Christo Marais, Chief Director Natural Resources Management Programmes, Department of Environmental Affairs, email 2 May 2018.

conservation on private land and developing business and biodiversity initiatives. In particular, the establishment of the CAPE partnership resulted in a renewed emphasis on collaborative work on agreed priorities. During the 2000s, South Africa was engaged in a substantial renewal of its institutional structures, creating an opportunity to make inputs into policies and processes that would have substantial long-term impact. With its diverse membership, the Fynbos Forum was uniquely placed to make contributions that linked scientific understanding with development of policy and support for implementation. It also hosted a significant number of international visitors.

4.5.1 Informing policy development

The Fynbos Forum used both formal workshops and informal discussions to contribute to the development of new legislation and policy frameworks. For example, the Fynbos Forum made important inputs towards the drafting of the Biodiversity Act[xxiii] (putting forward the inclusion of listed ecosystems as a worthy regulatory target) and to the Protected Areas Act.[xxiv] During the 2000s, Mark Botha facilitated a number of workshops to explore potential incentives for encouraging conservation on private land. The Fynbos Forum made specific inputs related to Contract Protected Areas and Biodiversity Stewardship,[xxv] incorporating insights gained from the Western Cape's experience. This included contributions to the Property Rates Act[xxvi] and the Income Tax Amendment Act, both aimed at incentivising protected area expansion. The Fynbos Forum also provided contributions to the revision of the invasive species lists under the Conservation of Agricultural Resources Act[xxvii] and contributed to regulations addressing the management of Problem Animals. Some of their most important contributions to policy development were in the field of environmental impact assessment (see section 4.5.3). The strong involvement of SANBI and other organisations involved in policy development processes resulted in a substantial body of policy experts attending the Fynbos Forum during this decade (figure 6.7).

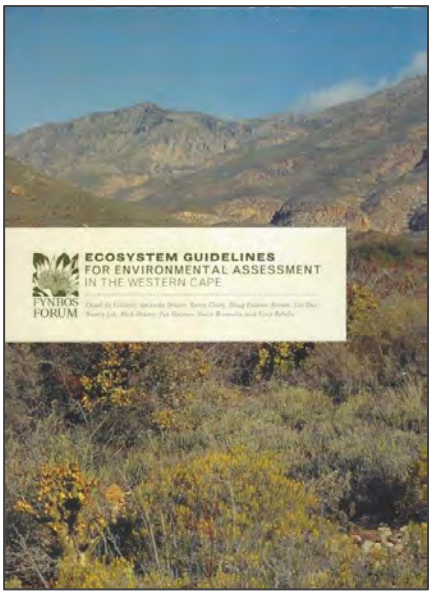
4.5.2 Linking conservation planning and implementation

The experience gained in undertaking and implementing the first systematic conservation plan in South Africa[123] led to the development of a substantial body of experts who not only supported the development of conservation planning for other regions across the country but also provided scientific leadership internationally.[124] There was rapid refinement of the science that underpinned these systematic conservation plans and of the frameworks that supported their implementation. These developments led to the establishment of a nationally accepted approach for setting systematic conservation targets, which formed the basis for the country's first National Spatial Biodiversity Action Plan in 2005.[125] Before the establishment of the national specialist Conservation Planning Forum, the Fynbos Forum provided an important platform for sharing advances in conservation planning as much of the early work was done in this region. It also

xxiii. National Environmental Management: Biodiversity Act 10 of 2004.
xxiv. National Environmental Management: Protected Areas Act 57 of 2005.
xxv. Biodiversity Stewardship recognises private and communal landowners as custodians of biodiversity on their land. It supports the conservation of biodiversity in priority areas through the establishment of legal agreements with conservation agencies or NGOs supported by appropriate management plans.
xxvi. Property Rates Act 6 of 2004.
xxvii. Conservation of Agricultural Resources Act 43 of 1983.

provided an arena where the implications of these new advances could be discussed with those who would use them to support the expansion of protected areas and to inform development planning processes. This resulted in a significant increase in the attendance of those involved in the planning sector at the Fynbos Forum annual meetings (figure 6.6).

4.5.3 Developing ecosystem guidelines for environmental assessment



There was growing concern in the early 2000s that biodiversity was not being adequately addressed in environmental impact assessments and that this was contributing to unsustainable land-use decisions. In response, the Fynbos Forum resolved in 2002, at Goudini, to develop technical guidelines to strengthen biodiversity assessment. An initial workshop was held during the annual meeting of the Fynbos Forum at Hartenbos in 2003 and a further session at the 2004 Mykonos meeting. This was followed by the establishment of a working group of over 30 people from diverse organisations. BotSoc assigned Charl de Villiers to coordinate the project. The interaction of scientists and managers resulted in a scientifically rigorous set of guidelines that made information available in an accessible and relevant format. The Fynbos Forum*'s Ecosystem Guidelines for Environmental Assessment in the Western Cape* was made available in 2005.[126] Thanks to sponsorship from TMF, which covered both the printing and formatting costs, it was made available free of charge from the Biodiversity GIS website. These guidelines became their most frequently downloaded document and they have been extensively used by private consultants doing EIAs and by NGOs and government departments needing to evaluate the potential impacts of development. As will be discussed further in Chapter 7, this has had significant regional and national impact in practice.

Dennis Laidler

"Biodiversity in Land-Use Planning and Environmental Assessment" Workshop at Fynbos Forum 2004. This workshop was one of the sessions that led to the Ecosystem Guidelines.

4.5.4 Building capacity

In addition to making funds available to support attendance at the Forum, the Innovation Scholarships, initiated jointly by CAPE and TMF in 2007, provided substantial bursaries for postgraduate students. These continued for the rest of the decade and beyond. Their purpose was to encourage exceptional students to go into the conservation sector (see box 4.4).

Box 4.4: Innovation Scholarships

In 2007, the Innovation Scholarships were established through collaboration between TMF and the Fynbos Forum. TMF has provided support for up to two MSc students and one PhD student each year since then, with breaks in 2010 and 2014. By 2018, 16 MSc and five PhD grants had been awarded. Shortlisted candidates have to attend and present at the Fynbos Forum as part of their evaluation process, and once the grant is awarded, the awardee is obligated to present their work at the Fynbos Forum. The objective of these grants is to attract, retain and incentivise the best young researchers to work on the fynbos and on problems that support regional conservation goals. More specifically, the goal is to fund innovative projects that interface between research and conservation and can clearly lead into implementation. The terms stipulate that recipients should address subjects highlighted as priorities within the Fynbos Forum Research Strategy. The recipients arelisted below and their thesis titles and/or papers are listed in the endnotes.

- 2008/9 Roseanne Stanway (MSc)[127,128]
- 2011 Ursina Rusch (MSc)[129,130,131]
- 2011/2012 Elzanne Singels (MSc)[132,133,134]
- 2011/2012 Alanna Rebelo (MSc)[135,]
- 2012/2013 Penelope Waller (MSc)[136,137,138,139]
- 2012/2013 Caroli de Waal (PhD) [140,141,142]
- 2013 Dewidine van der Colff (MSc)[143,144]
- 2015 Megan B. Simons (MSc)[145,146]
- 2015 Oliver Cowan (PhD)
- 2015/2016 Aileen Thompson (MSc)[147]
- 2016/2017 Nicholas Galusznski (MSc)[148,149]
- 2016/2017 Stephen Cousins (PhD)[150]
- 2017 Timothy MacQueen (MSc)[151]

4.5.5 Exploring ways to encourage community involvement

Julia Wood

Children from the Baviaanskloof area entertain participants, Fynbos Forum 2005.

The maturing South African democracy was associated with an increased emphasis on community involvement. The Fynbos Forum reflected this change through greater focus on community engagement, which broadened perspectives in debates and presentations. As a result, the Forum found itself in a position to provide inputs to urban conservation and environmental education. In 2008, the Fynbos Forum was chosen to host the Theo Manuel Award for environmental education (see box 5.4). Urban conservation, involving local communities, increased in prominence. Projects such as Cape Flats Nature shared important insights, and young conservationists were given the opportunity to present their findings and to network at the Fynbos Form. Tanya Layne (Goldman), Xola Mfeke, Zwai Peter and Paula Hathorn all played important leadership roles here.

Fynbos Forum archives

Goerge David in action recording at the Forum.

There was also a drive to strengthen environmental education. Events associated with the annual meetings were organised for school-children by CAPE at Bredasdorp in 2009 and at Citrusdal in 2010. Theo Manuel and Alice Ashwell were both important leaders in environmental education, presenting papers and facilitating a number of sessions and workshops. George Davis encouraged the development of creative ways of sharing stories about conservation that would inspire people to get involved and make a difference. The caretakers films became a regular part of the Fynbos Forum experience.[xxviii]

4.5.6 Communicating the value of fynbos

Conscious of the importance of communicating the value of biodiversity in terms of its providing essential goods and services, two of the annual meetings of the Fynbos Forum addressed this issue: in 2002, the theme at Goudini was "What is our Fynbos Worth?" and in 2004, at Club Mykonos, the theme was "Delivering the Goods." Papers and workshops addressed ecological economics and value systems, the quantification of goods and services and job creation. Others made the link to sustainable agriculture, sustainable harvesting and business and biodiversity initiatives.

xxviii. The films are available on the caretakers website http://www.caretakers.co.za/

This emphasis on determining and communicating the value of the fynbos was a response both to a local acknowledgement of the need to support the provision of basic services to the poor as well as a growing global emphasis on this issue. The international acceptance of the Millennium Development Goals and the outputs of the 2002 Johannesburg Summit on Sustainable Development both provided further impetus to an issue that was already a priority for local conservationists. Indeed, the initiation of the Working for Water programme had demonstrated how much support for conservation could be unlocked when this connection was made. South African managers and scientists from the fynbos region were consequently at the forefront of this developing field, presenting many innovative papers at the Fynbos Forum.

4.5.7 Promoting the establishment of Biodiversity Stewardship

Karen Esler

Arnelle Collison, Natasha Wilson and Deon Rossouw at the Interfaces 2008. Arnelle and Natasha are involved in the stewardship programme.

The Fynbos Forum regularly discussed the conservation of the lowlands. Most of the remaining natural vegetation in the fertile lowland areas existed in remnants on private farms, so it was generally unsuitable for the establishment of conventional protected areas. In 2001, the Fynbos Forum held a workshop on landowner incentives in order to promote conservation on private land. This was an important early contribution towards the establishment of a Biodiversity Stewardship programme in the Western Cape.[xxix]

Creative approaches to secure the fragments through partnerships with private and communal landowners were pioneered in this decade by two local NGOs, BotSoc and WWF-SA. The CAPE partnership went on to establish "Landscape Initiatives"[xxx,152] in sub-regions that had been identified as priorities in the conservation plan, and they established capacity within conservation agencies to engage with landowners in order to conserve priority areas on private and community land. The Fynbos Forum supported the development of these new approaches by bringing together a wide variety of role players, including the conservation sector, agriculture, private landowners, industry and NGOs in special sessions and workshops. Forum meetings provided space for people involved in Biodiversity Stewardship to share early successes and challenges,

George Davis

A farmer in the Nuwejaars Wetland Special Management Area discussing biodiversity stewardship with Dave Whitelaw. Fynbos Forum field trip 2009.

xxix. From the 2001 AGM: "The needs and concerns and options for landowners need to be addressed, particularly in the light of so much of the natural environment being in private landowner hands. There is an urgent need for incentives for landowners to manage their land in such a way that bio-diversity is maintained." Christo Marais asked whether there was a need for a special workshop on this subject. Adoption of a workshop was proposed by Mark Botha and seconded by Val Charlton and a report back was given in 2002.

xxx. A close connection with stakeholders and local engagement, combined with a way of working on and off protected areas, resulted in the concept of landscape initiatives, which aim to conserve protected areas but also include buffer areas and other land-uses.

debate the best approaches, spread the understanding of how effective these new approaches were and explore how they could be integrated for maximum impact. During the 2006 Worcester meeting, the transformative local partnership between agriculture, conservation, municipalities and local farmers established through the newly formed Upper Breede Collaborative Extension Group was showcased on a field trip. At the end of the decade, the Fynbos Forum hosted a Western Cape Conservation Stewardship Association Workshop, bringing together important role-players in this rapidly developing field.

Box 4.5:

The Overberg Renosterveld Conservation Trust

One of the emerging leaders in the Biodiversity Stewardship sector was the Overberg Renosterveld Conservation Trust (ORCT). Odette Curtis, director of OCRT, indicated that it had drawn on the Fynbos Forum to publicise and secure support for its work in the renosterveld fragments. Regular presentations at the Fynbos Forum highlighted the importance of this biodiversity hotspot and provided new insights as to how it could be sustainably managed to maintain both its biodiversity and grazing potential. Odette's passion won her several top speaker prizes at the Fynbos Forum during this decade. Many of the partnerships on which this NGO is based were built on relationships that were first established through the Fynbos Forum. These partnerships, together with increased levels of awareness, helped to secure resources for lowland conservation.

Gigi Laidler

Odette Curtis receiving an award from Dipolelo Elord, DEA at the Fynbos Forum 2007.

4.5.8 The development of business and biodiversity initiatives

The fynbos region was an early leader in the promotion of the sustainable use of resources, and significant advances were made in the 2000s that benefited from the opportunities for communication and networking provided by the Fynbos Forum. Over 90% of South Africa's wine is produced in the Cape Floristic Region and clearing of vegetation for wine production is consequently a significant threat to the region's flora. In response, BotSoc started the Biodiversity and Wine initiative in 2004. Management of this project was moved to WWF-SA in 2009 and was ultimately taken over by the wine industry in 2015. The Fynbos Forum provided important early support and exposure for this innovative initiative.

Odette Curtis

Moraea comptonii; Drosanthemum flavum; Moraea elegans; Polhillia curtisiae

Caroline Gelderblom

Leaders (from *L to R*) of the Sandveld Biodiversity Best Practice Potatoes Project (Sean Ranger), Right Rooibos (Gerhard Pretorius) and Flower Valley (Lesley Richardson) on a 2010 Fynbos Forum field trip.

Building on the region's long history of wildflower harvesting, CEPF funded the development of a guideline for sustainable harvesting of commercially utilised plant species through CAPE. This book was edited by Maryke Middelmann under the auspices of SAPPEX and involved a large number of collaborators—their mutual involvement in the Fynbos Forum helped to broaden the net of participants.[153] It was supported by a *Code of Practice and Certification Guide*.[154] From 2003 onwards, the Agulhas Biodiversity Initiative provided substantial support for sustainable harvesting through Flower Valley, which also actively used the Fynbos Forum for networking (box 4.6). In 2012, Maryke Middelmann wrote a book entitled *Proteas: The Birth of a Worldwide Industry*.[155] Throughout this book, Maryke refers to the close relationship between SAPPEX and the Fynbos Forum.

In the 2000s, the CAPE partnership endorsed the development of projects supporting the sustainable harvesting of rooibos and potatoes. The 2006 CAPE Conference focused on this issue, and workshops and papers addressing sustainable production were presented at the Fynbos Forum. A farmers' workshop was hosted as part of the Interfaces Conference in Oudtshoorn in 2008. The movement of the Fynbos Forum around the region enabled participants to visit each of the Landscape Initiatives and Businesses and Biodiversity programmes during the mid-conference field trips. This was a particular emphasis at the Citrusdal conference in 2010.

The CAPE Partnership emphasis on the establishment of Landscape Initiatives was accompanied by outreach to agriculture and the promotion of conservation on private land through Biodiversity Stewardship. This increased the engagement with private landowners and resulted in their increased participation in the Fynbos Forum (figure 6.5).

Flower Valley Conservation Trust archives

The Agulhas Biodiversity Initiative team were regular participants at the Fynbos Forum.
L to R: Tertius Carinus, Beatrice Conradie, Hans Knoesen, Lesley Richardson,
Joan Prins, Sean Privett

Box 4.6: Flower Valley

In 2003, the sustainability of wildflower harvesting was given a tremendous boost when the Flower Valley Conservation Trust secured a significant grant through the Agulhas Biodiversity Initiative. Flower Valley had been started in 1999 as a project of the UK NGO Flora and Fauna International in order to conserve a highly diverse fynbos farm on which wild flowers were harvested but which was about to be converted to vineyards. Lesley Richardson, Executive Director of Flower Valley, indicated that "The Fynbos Forum workshops were the only place we could get everyone together." "Everyone" included the Agricultural Research Council, which was doing research on sustainable harvesting levels; the University of Cape Town, whose scientists were working on fynbos ecology; the CSIR, which had developed ecologically sound management guidelines for fire, invasive alien plants and harvesting; South African Protea Producers' Association (SAPPEX), representing the cut-flower industry; CapeNature, the legally responsible regulator; and the National Botanical Institute (now SANBI) with its distribution data from the Protea Atlas Project.

As they became better established, Flower Valley used the Fynbos Forum to host a number of industry specific workshops. These informed the development of the Sustainable Harvesting Programme, supported by a code of best practice, improved permit systems, and training and monitoring in the fynbos veld. A *Field Guide for Wild Flower Harvesting* was also developed. Flower Valley has also been very involved in dealing with the threat of invasive alien plants in the Overberg, and in promoting social responsibility with a particular emphasis on early childhood development. Lesley Richardson, the inspirational Executive Director of Flower Valley since 2003, emphasises that the Fynbos Forum's diverse programme and participants have been invaluable in supporting the organisation's goals. The importance of the Fynbos Forum to Flower Valley is reflected in the fact that both Lesley Richardson and Roger Bailey, the Flower Valley Conservation Director, are among the 25 most frequent Fynbos Forum attendees. They, in turn, have contributed richly to the Forum, providing invaluable insights through their presentations and practical contributions to discussions and workshops. This important organisation continues to promote the development of a sustainable wildflower industry and supports a number of other business and biodiversity initiatives. Flower Valley is currently participating in the development of sustainable guidelines for honeybush harvesting. The initial contact for this project was through the Fynbos Forum network.

4.5.9 Protecting threatened species and habitats

Julia Wood

Ismail Ebrahim during a CREW field trip.

The Biodiversity Stewardship programmes and Business and Biodiversity Initiatives that developed during the 2000s all focused on the highly transformed lowlands. NGOs such as BotSoc and TMF supported the innovative approaches that were then rolled out through conservation agencies with the support of CAPE. These conservation interventions were underpinned by extensive scientific research on the renosterveld fragments in the lowlands. In response to this widespread activity, the theme of the 2007 Fynbos Forum conference in Langebaan was "How well are we doing? Threatened habitat conservation." New advances and challenges continued to be discussed in an ongoing series of presentations and workshops within the Fynbos Forum. The Fynbos Forum network provided important support for the innovative Custodians of Rare and Endangered Wildflowers (CREW), whose objective was to record and protect the numerous rare and endangered plants found in these fragments (see box 4.7).

Box 4.7: Fynbos Forum's support for the Custodians of Rare and Endangered Wildflowers

CREW involves professionals and volunteers, capacitating them to actively seek out and monitor populations of rare and threatened plants. The initiation of this programme, which is a partnership between SANBI and BotSoc, was promoted through presentations at the Fynbos Forum and high-level involvement of the Fynbos Forum committee. CREW continues to make regular presentations to the Fynbos Forum, describing exciting new discoveries and priorities for future work. In this way, the conservation community are kept aware of this resource and encouraged to contribute. One of the most important informal communities of practice that has been nurtured by the Fynbos Forum, it focuses on rare and threatened species, linking biodiversity stewardship with CREW and drawing in those involved in the regulation of development as well as academics. The expertise available through CREW supports the identification and monitoring of rare and threatened plants on potential new biodiversity stewardship sites as well as those within existing protected areas. Species threatened by development are identified, and this ensures appropriate management for vulnerable populations. CREW maintains that the value of their work is greatly increased through this direct link with the conservation community. The work of CREW is actively integrated with professional scientists who work on identifying and locating species of conservation concern. The ongoing feedback and partnerships established at the Fynbos Forum help to ensure that the National Red List is used consistently to inform implementation. Ismail Ebrahim, leader of the regional CREW team, indicates that because the fynbos is home to the majority of South Africa's endangered plants, attending the Fynbos Forum meeting and maintaining local networks is a top priority for CREW.

> *It has been great for us to have a platform to share the work we do ... through the Fynbos Forum we have been able to make the work we are doing in CREW so much more valuable and get volunteers to support particular initiatives. (Ismail Ebrahim)*[xxxi]

xxxi. Ismail Ebrahim, CREW CFK Node Manager, SANBI. Interview, 20 October 2016.

4.5.10 Developing a Research Strategy

International and local funding for the implementation of the CAPE programme and for the Expanded Public Works Programmes provided significant support for implementation in the early 2000s, but research funding was still fragmented and tended to be focused on short-term projects rather than long-term priorities. Kristal Maze facilitated a workshop to address this situation at the 2003 Fynbos Forum. Julia Wood, with the support of CEPF and CAPE, co-ordinated the drafting of a research strategy in 2005. Ian Macdonald wrote the first draft and it was reviewed by Richard Cowling. The objective of this research strategy was "To fill key biodiversity research knowledge gaps to improve the management of human impacts in the Cape Floristic Region."[4] A consultative process identified research priorities, which were then grouped into six themes: Understanding the Region's Biodiversity, Ecosystem Health and Services, Fragmentation, Climate Change, Alien Invasives, and Freshwater Ecosystems. Priorities were identified for each theme. The Research Strategy was reviewed in 2007 by Lala Steyn, Theresa Wilson, Donovan Kirkwood and Connie Krug with funding from the Table Mountain Fund. It was discussed again at the 2009 Fynbos Forum annual meeting. It was hoped that the establishment and maintenance of an agreed research strategy would help motivate collaborative long-term research such as that undertaken under the auspices of the Fynbos Biome Project, and it was decided that SANBI should take this forward. The intention was to provide a mechanism through which issues identified by managers could be prioritised and translated into researchable questions. An agreed research strategy could also serve as a transparent mechanism for funding research. It was used by the Table Mountain Fund and CAPE to help direct their support for research and has also guided the allocation of the Fynbos Forum Innovation scholarships. The "Way Forward - Chapter 8" emphasises the importance of regular maintenance of this strategy so that it does not become dated.

4.5.11 Promoting best practice

Throughout the 2000s, the Fynbos Forum continued to provide a valuable space for debating fynbos management, bringing together managers, scientists and policy makers and keeping attendees abreast of the latest developments. Working for Water Programme funding supported an upsurge in research on clearing methods and the development of incentives to promote clearing on private land—both of which were discussed in dedicated sessions at the Fynbos Forum. Work on invasive species also expanded into the aquatic environment with the support of TMF and CAPE. The Cape Floristic Region has the most severe levels of fish invasion in rivers in South Africa, and species such as bass, trout and bluegill are the prime threats to the unique fish communities of the region. Several presentations were given by scientists from CapeNature (led by Dean Impson) and the South African Institute for Aquatic biodiversity during this decade, highlighting this problem and describing the coordinated response. The Fynbos Forum also hosted a number of sessions focusing on wetlands and their restoration, providing important local inputs from the Working on Wetlands Programme and from others involved in wetland management and research. The Fynbos Forum was particularly active in this arena before the establishment of the National Wetlands Indaba. The establishment of the Working on Fire Programme provided impetus for research on fire management. In response, special workshops were held to address fire management in 2006 and 2009. There was also a strong emphasis on rehabilitation and management of renosterveld fragments with workshops on these fragments in 2001, 2007 and 2009, led by Connie Krug.

Material presented and debated at the Fynbos Forum provided useful input for the Working on Wetlands, Working for Water and Working on Fire programmes. It was also valuable for the Biodiversity Stewardship and Business and Biodiversity programmes, which focused strongly on sustainable land management and worked directly with landowners. It was clear that there was a need to make this information on best practice for managing fynbos more accessible for those managing the land—both private landowners and those in the public sector. In 2007, it was agreed that the Fynbos Forum would, with the support of the Table Mountain Fund, produce an accessible book providing management guidelines for fynbos. These guidelines would form an important bridge between research and application; however, producing them was such a huge task that it would be completed only in the next decade (see section 5.5.3).

> *I remember my first Fynbos Forum at Ganzekraal representing the Cape Peninsula Fire Protection Association. I read my entire presentation with my head down…. I got a few laughs and a lot of stares. Moving swiftly along, I went on to witness the fun of senior scientists and managers schooling young aspiring scientists and managers on the quality and standard expected when working in the Fynbos Biome as they vigorously critiqued PhD, Master's and Honours studies as well as "well intended" management plans that needed lots more work. I eagerly listened to seasoned conservationists debating the latest threats and starting the planning on innovative conservation solutions, feeling completely overwhelmed by their awesomeness but also inspired to play my part. The Fynbos Forum is where I understood my responsibility as a leader in the Fynbos Biome. It was that one place I could go to every year to share, engage and learn. This is where meaning was made of the adverse complexity we experience in the Fynbos Biome and where we lobbied for support from colleagues to achieve amazing conservation feats. This is where some of the most ambitious initiatives in the Fynbos Biome like CAPE, Table Mountain National Park, Working for Water and many other great initiatives were born and shaped the future of the Fynbos Biome. The Fynbos Forum is a safe place for scientists and managers to dream, but also to be grounded, have boundaries pushed and where we are all held to account. It is where Fynbos leaders and game changing initiatives have been, and are, forged. (Augustine Morkel)*[xxxii]

Cliff & Suretha Dorse

Cape Mountain Lizard (*Tropidosaura gularis*) | Moonlight Mountain Toadlet (*Capensibufo selenophos*) | Southern Adder (*Bitis armata*)

xxxii. Executive Manager Operations, WWF-SA.

The Fynbos Forum and I were both born on the slopes of Table Mountain around the same time. We would grow up miles apart, separated by train lines, roads, policies, laws, and distance. Yet, it would be the Cape fynbos plants that would reconnect me to my ancestral roots in the Cedarberg and the Overberg as a postgraduate student. It would connect me with colleagues and kin across disciplines, professions, institutions and landscapes throughout my academic career. At this occasion I commemorate the many people – colleagues and kin – who have kept this landscape in trust. Thanks to the efforts of past conservationists, responsible land-users and knowledgeable elders, we still have a natural heritage to reclaim, to steward and to share with our children. (Rhoda Malgas)[xxxiii]

Rhoda Malgas

Caroline Gelderblom

A few of the large contingent who started attending the Fynbos Forum in the 2000s at the 2017 meeting.
Back Row L to R: —, Chris Lee, —, Robert Middelmann, Alistair Potts
Middle Row L to R: Rupert Koopman, Tineke Kraaij, Peter Viljoen, Bongani Mnisi, Jasper Slingsby
Front Row L to R: Martine Jordaan, Andrew Turner, Alana Duffell-Canham, Kerry Maree

xxxiii. Rhoda Malgas, Stellenbosch University

Tessa Oliver

Hairy Sugar Ant (*Camponotus niveosetosus*) on *Diosma* sp.

CHAPTER 5: 2010s — BECOMING INDEPENDENT AND MAINTAINING MOMENTUM

5.1 REGIONAL CONTEXT

In the 2010s, South Africa was no longer a new and internationally acclaimed democracy. Due to concerns about widespread government corruption, state capture and potential land redistribution, there was noticeably less willingness for international donors to invest in the country.[156,157] This was exacerbated by the international financial crisis of 2008 that caused the onset of a global recession. South Africa was further affected by increased unemployment, raised inflation and a stagnant economy, the impacts of which were intensified by political uncertainty and the increasing population.[158] These national and international factors resulted in a significant reduction in the funds available to the national fiscus. At the local level, this was coupled with a change in the role of the Cape Action for People and the Environment Partnership Programme (CAPE), which transitioned from a conduit for substantial international grants to one of co-ordination.

Although the main Global Environment Facility (GEF) grant to CAPE terminated in 2010, consolidation funding of US$ 1.5 million was made available by the Critical Ecosystem Partnership Fund (CEPF) until 2013. The objective of this extension was to ensure that the CAPE interventions were concluded in an optimal way, and that improvements were institutionalised wherever possible. In the latter half of the decade, the CAPE partnership reduced its staffing and activities as 2020, and the completion of its 20 year vision, approached. During this period, CAPE continued to provide assistance with communication, supporting funding applications and helping its partners align their internal activities with each other. Substantial grants were still received from the GEF in the 2010s, but unlike the 2000s, when funding went to bioregional programmes such as CAPE, in the 2010s, funds were directed to specific "thematic" projects. These included the support of fire management,[i] the incorporation of biodiversity into land-use regulation and management at the municipal level, protected area expansion and climate change adaptation.

National government continued to support the region through the Natural Resource Management (NRM) component of its Expanded Public Works Programme (EPWP). Importantly, from 2010 this included funding for aquatic invasions. In partnership with the South African National Biodiversity Institute (SANBI), an Early Detection and Rapid Response programme was developed, which focused on emerging invaders. NRM's continued funding for research and implementation of biological controls was particularly significant.


Stephen Cousins

CREW field trip

Civil society organisations had been significantly strengthened during the CAPE period. In particular, the Table Mountain Fund (TMF)—a long-term trust mandated to conserve fynbos—continued to play a vital role in maintaining momentum in the region, including support for the Fynbos Forum (see box 5.1 below). In this decade, TMF became one of the main funding sources for the Fynbos Forum. WWF-SA,[ii] which administers TMF, also provided substantial support for conservation within the Fynbos Region through additional funding sources. In this decade, it expanded its engagement with business and biodiversity initiatives to include work on sustainable fruit production in the fynbos region. Birdlife Africa and the Endangered Wildlife Trust also played important roles in the region, as did smaller NGOs such as the Cape Town Environmental Education Trust (CTEET) and the Overberg Renosterveld Conservation Trust (ORCT). The Botanical Society (BotSoc) continued to play a critical role in supporting the Custodians of Rare and Endangered Wildflowers (CREW), run in collaboration with SANBI.

i. Fire management was specific to the fynbos—the Fynbos Fire Project. This prompted some key research projects, launched FireWise initiatives, and established an effective group of Fire Protection Associations to deal with the increasing fire risks to biodiversity, people, livelihoods and assets.

ii. World Wide Fund for Nature-South Africa

Box 5.1: The Role of the Table Mountain Fund

Since its registration in 1998 as a capital conservation trust, TMF's responsive and integrated approach has enabled it to support catalytic programmes, helping to maintain the impetus in fynbos conservation. TMF's initial funding was raised locally by WWF-SA, specifically for the conservation of Table Mountain. As part of an integrated proposal to the GEF, the mandate of TMF was expanded to include the whole of the Cape Floristic Region, and a grant of US$ 5 million was awarded at the end of 1997. The contribution of TMF became particularly significant as the external CAPE funding drew to a close. TMF has proved to be of extraordinary value as a long-term, independent and sustainable source of funding for the conservation of fynbos.

TMF focuses on developing innovative mechanisms in collaboration with other partners. By 2017, TMF had invested over R68 million in 300 projects. It has been the largest non-government source of funding for biodiversity stewardship on private land, supporting other NGOs and government conservation agencies. New approaches, tried out in projects funded by TMF, have helped the fynbos region to remain at the forefront of biodiversity stewardship. TMF is currently supporting the development of national guidelines for biodiversity stewardship. It continues to provide crucial support for protected area expansion, business and biodiversity initiatives, sustainable land management, capacity development and social upliftment, giving preferential support to NGO-run projects. Recently, TMF created a small grants facility to support communities active in the CAPE Landscape Initiatives.

A symbiotic relationship between the Table Mountain Fund and the Fynbos Forum.

TMF and the Fynbos Forum have worked as a close partnership, motivated by their shared commitment to supporting fynbos conservation. TMF provided the funding for the majority of the interventions the Fynbos Forum undertook. The Fynbos Forum, in return, provided the channel through which TMF could interact with the broader conservation community, helping it to prioritise issues requiring its support. In the early years, all TMF grant recipients were contractually obligated to report back to the conservation community by presenting at the Fynbos Forum. A large percentage of grant holders voluntarily continued to give feedback in this way, and from 2018 it once again becomes compulsory. TMF managers have always attended the Fynbos Forum to support TMF funded projects, and in so doing, they have received an overview of emerging regional issues. TMF has always been closely involved in the management of the Forum, and Kerry Maree, current manager of TMF, was appointed as vice-chair in 2017.

TMF provided support for the following Fynbos Forum projects:

- 2004: Support for candidates to attend the annual conference
- 2005, 2016: The first and second versions of the *Ecosystem Guidelines for Environmental Assessment in the Western Cape* (sections 4.5.3 and 5.5.3)
- 2007: The Fynbos Forum Research Strategy (section 4.5.10)
- 2008–2018: Innovation Scholarships (see box 4.4)
- 2014: The development of the book *Fynbos Ecology and Management* (section 5.5.3)
- 2018: This book on the Impact and History of the Fynbos Forum.

Caroline Gelderblom

Cape Dwarf Chameleon (*Bradypodion pumilum*)

5.2 DRIVERS IN THE 2010s

The Fynbos Forum continues to function as a regional learning network, providing a valuable platform for presentations and workshops on a wide variety of issues. This decade has, however, been challenging and numbers have dropped due to a number of factors, including the end of large consolidated international donor funding through CAPE, the establishment of a large number of specialist meetings, ongoing government budget restrictions and secretariat instability. However, despite its smaller size, the Fynbos Forum finds itself playing an increasingly important role in the maintenance of regional coherence. As an interface between policy, research and management, it also forms the base for a number of communities of practice. "The Way Forward" (Chapter 8), looks at some exciting opportunities that are being created by its new institutional structure.

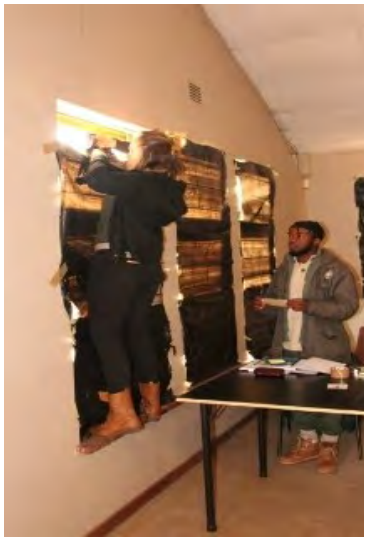
5.2.1 Establishment as an independent non-profit company

The last grant from the National Research Foundation was received in 2011. Another change in 2011 was the indication from BotSoc that, due to the revision of financial and legal regulations affecting public benefit organisations, it could no longer host the Fynbos Forum. Fortunately, by this stage the Fynbos Forum had established itself on a more stable financial footing and was able to pay for fixed costs, such as the hire of a venue, in advance of each meeting. At the 2012 annual general meeting at Cape St Francis, the Forum took

the decision to register as an independent organisation. After considering several options, a proposal to establish it as an independent non-profit company was approved in 2015 at the annual general meeting in Montagu. While this process was under way, Kishugu[iii] generously took over the administration of the Fynbos Forum from BotSoc, providing administrative support until the end of 2016. During this time, a formal constitution was developed. The complex process of establishing the Fynbos Forum as a registered Non-Profit Company (NPC) was finalised in 2017. In that year, it appointed a secretariat who could address many of the administrative challenges of recent years. This increased formality is characteristic of the development of learning networks, which often require a central coordinating structure.[159] The Forum's new ability to function independently offers many exciting opportunities for the future. Tessa Oliver, Julia Wood and Tony Marshall were appointed as the first directors of The Fynbos Forum NPC.

5.2.2 Maintaining the annual Forum

The venues for meetings in the 2010s included many church/town halls, but none seemed quite as cold as Nekkies had outside Worcester in 1996—perhaps providing evidence of global warming. Attendees were always well fed by local catering teams, including some spectacular glitter-bedecked treats in Stilbaai in 2011. During the Fynbos Forum's two visits to the Eastern Cape and at the 2011 Stilbaai Forum, there were fascinating inputs on the interface between human evolution and the resources available on the rich coastal plains. In 2016 in Port Elizabeth, the participants had an opportunity to try a bit of foraging themselves—and a tasty stone-age salad was on the menu that evening.



Caroline Gelderblom

Sticking black bags on windows to darken the venue for Power Points, Fynbos Forum 2017.

In 2013, for the first time in almost 20 years, the Forum was held in a major urban centre as part of the Kirstenbosch centenary celebration. Although this made the meeting more accessible, it was felt that the meeting lacked the camaraderie engendered by the remote residential venues. At this meeting, Jasper Slingsby and Nicola van Wilgen led a workshop to discuss how networking could be strengthened (these two individuals are part of the enthusiastic new generation of Fynbos Forum leaders). A follow-up workshop in 2016 indicated that networking and mentorship continue to be of particular importance for younger members. Suggestions as to how these can be strengthened are outlined in Chapter 8, "The Way Forward". Subsequent meetings have emphasised the importance of maintaining opportunities for networking outside of the formal programme as these unstructured discussions are often the most valuable.

iii. Registered as a Landworks Non Profit Company in April 2017. This NPC is based in Cape Town under the directorship of Val Charlton and provides a platform for civil society, the private sector, and donor and government agencies to combine their Integrated Fire and Land Management efforts, resulting in meaningful collective investments into ecological infrastructure, while delivering socio-economic benefits to the poorest of the poor. They partner with civil society, the private sector and donor and government agencies to provide sustainable solutions to socio-environmental concerns.

5.3 LEADERSHIP AND COORDINATION

Julia Wood continued in the chair for the 2010 and 2011 Forums. She remained on the committee, and by 2018 had served on the committee for a remarkable 21 years, eight of them as chair. During this period, she also played a leading role in the development of the Forum. She provided support for the transition to an independent NPC, and now serves as one of its directors. Her ongoing commitment to making the Forum work has been a critical driving force behind its success. In 2011, Wendy Paisley retired and the Forum felt keenly her loss as administrative anchor—the warmth with which she fulfilled her function made people feel truly welcome and was an important part of the spirit of the Forum. This inspired Zohra Parkar and Tamaryn Kahn to bid her farewell with a belly-dance at the Stilbaai meeting. In addition to her excellent organisation of meetings, her maintenance of the email-based circulation of important information on job opportunities and conservation initiatives was sorely missed. In 2017, this need was addressed by the appointment of Kay Montgomery as coordinator.

Fynbos Forum archives

Tessa Oliver, Fynbos Forum 2011

Tessa Oliver was voted in as chair in 2011 and managed six annual meetings with characteristic humour and energy. Her previous experience as vice-chair of the Arid Zone Forum and her wide network, established through her work at CapeNature, ARC, SANBI and Landworks, served her well. With a background in the humanities and her involvement in the environmental sector, she formed a good bridge between different disciplines. During Tessa's time as chair, she also headed up the GEF-funded Fynbos Fire Project, and her Kishugu team generously provided administrative support for the Fynbos Forum from 2012 to 2017. When Kishugu became Landworks NPC, Tessa's role as Fynbos Forum chair was incorporated as one of her key performance areas. She also encouraged members of the Fynbos Fire Project to use the Fynbos Forum for their workshops and feedback, helping to maintain the links with management. The successful establishment of the Fynbos Forum as an independent NPC was a major focus of Tessa's time as chair, requiring a great deal of legal and administrative input. Tessa was ably assisted in this by the Fynbos Forum bookkeeper, Charles Stuart, who took on the painstaking task of collecting the necessary documentation. He notably staged a "sit-in" in the company registration office, borrowing a chair from the hairdresser next door, until his quiet persistence finally paid off. With the same determination, he followed up the payment of outstanding fees, thus supporting the organisation's financial stability.

Fynbos Forum archives

Tessa Oliver, Richard Cowling, Augustine Morkel, Fynbos Forum 2012

Being the chair of Fynbos Forum was a great honour for me as it meant that I was joining the ranks of all those that went before me and that I was entrusted by the participants to lead the Forum into its new era of being an independent entity. (Tessa Oliver)[iv]

Rupert Koopman acted as vice-chair from 2012 to 2017, and was voted in as chair at that point after 11 years spent on the committee. Based in CapeNature, he plays a critical role in maintaining the links between that organisation and the Fynbos Forum. As a botanist, he forms an important bridge between science and implementation. He has a special interest in rare and threatened plants and supports CREW, impact assessment and biodiversity stewardship initiatives. Rupert has been part of the Fynbos Forum since he was a third year student at the University of the Western Cape (UWC).

Rupert Koopman

Rupert Koopman on a Fynbos Forum field trip to the Rasta community at Judah Square, Fynbos Forum 2014 field trip.

It would not be an exaggeration to say that I built my career on the Fynbos Forum. From the initial meeting with the Custodians of Rare and Endangered Wildflowers at my very first Fynbos Forum in 2003, which culminated in a holiday SANBI internship (with CREW), right through to getting the annual opportunity to listen to research and interesting projects followed by socializing with people from across the fynbos region, Fynbos Forum connections have been and will always be integral to my professional development. What a privilege to be in a position to continue curating this space. My vision is to make the Fynbos Forum a more welcoming space—changing it through a gradual process of evolution rather than revolution. Coming from the rich tradition of CAPE, local networks and the Fynbos Forum, I would like to encourage the development of partnerships through informal networking and to promote working in a multidisciplinary way with many stakeholders, because you don't know everything. (Rupert Koopman)[v]

During this decade, committee members came from a wide variety of institutions, including funding organisations, management organisations and research bodies. In the 2010s, for the first time, women were predominant on the committee. In addition to Julia Wood, other long-standing committee members during this decade include Karen Esler of Stellenbosch University (13 years), Pat Holmes (9 years, City of Cape Town), Tessa Oliver (8 years, Landworks), Aziza Parker (9 years, SANBI), Bongani Mnisi (6 years, City of Cape Town), Tony Marshall (6 years, CapeNature), Nicola van Wilgen (6 Years, SANParks) and Carly Cowell (5 years,

iv. Tessa Oliver was Project Coordinator GEF Fynbos Fire Project while she was chair, and is currently Project Manager of Special Projects at Landworks NPC.

v. Rupert Koopman: Scientist at CapeNature, current Fynbos Forum chair.

SANParks).[vi] All committee members contribute their personal time to ensuring that the Fynbos Forum runs smoothly, assisting with administration, organisation of field trips and chairing of sessions at the Forum.

Compiling the annual programme is a major challenge, and Julia Wood, Karen Esler, Pat Holmes and Nicky Allsopp have all worked on this since the mid-2000s. In recent years, they have been assisted by Tessa Oliver, Nicola van Wilgen, Carly Cowell and Martina Treurnicht. Arranging the presentations by relevant themes and inviting individuals to give keynote addresses underpin the success of each Forum. Odette Curtis with help from Tessa, Nicola and Carly, among others, has carried, since 2010, the responsibility of evaluating the presentations to identify the best student, best paper and best poster. Bongani Mnisi of the City of Cape Town (CCT) took over the audio-visual support in 2012, doing this with the assistance of CCT interns.[vii]

Sadly, three important individuals passed during the writing of the book. Fred Kruger passed away in 2017 and Barrie Low in 2018. Just as this book was about to be finished, the devastating news came of the death of Stephen Cousins. Writing the obituaries was exceptionally hard and it is hoped that the book has done justice to the significant contributions that all of these stalwarts made.

5.4 NETWORK ANALYSIS

5.4.1 Attendance – Financial constraints and competition

Over the years, attendance at Fynbos Forum meetings has reflected the availability of funding. Between 2002 and 2013, GEF and CEPF support for the CAPE partnership built significant capacity in the region, which was closely associated with an increase in the number and diversity of Fynbos Forum attendees. As a result, the numbers attending the Fynbos Forum remained well over 200 until 2013. In 2014, attendance at the Fynbos Forum dropped by 20% to 180. A number of factors contributed, but the biggest change that year was the termination of external donor funding through CAPE. This was exacerbated by government budget constraints and an increasing number of competing specialist forums and working groups. Numbers continued to decrease gradually until, in 2016, they were just above 100—a return to levels typical of the period prior to the initiation of CAPE. The "Way Forward" (Chapter 8) suggests ways of increasing numbers and maintaining the diversity that is so fundamental to the role the Fynbos Forum plays in the conservation community. The network density has increased, indicating that the overall network is more connected. Moreover, the central component of the network has actually increased in size and includes 65% of all authors, which implies that people joining the central network have access to more knowledge and support.

vi. In this decade, the following also served on the committee: Marilyn Martin Vermark (SANBI); Natasha Wilson and Augustine Morkel (WWF-SA); Matthew Norval (Wilderness Foundation); Odette Curtis (ORCT); Jasper Slingsby (SAEON); Vernon Gibbs-Hall (Garden Route Municipality); Xola Mkefe, Jay Reeler (UWC); Donald Matjuda (Eskom); Amanda Younge-Hayes (private); Marlene Larons (DEA&DP); Kerry Maree (TMF); Martina Treurnicht, Stuart Hall (US) and Shahida Davids (SANBI).

vii. In the first three years of the decade, the AV was done by Ryan Blanchard, Otto and Maya Beukes, Andreas Groenewald, Skye Marks and Ranier Krug.

5.4.2 Changing composition – The challenge of retaining diversity and engaging managers

The diversity of organisations attending the Forum was maintained into the 2010s, with universities, national and provincial statutory bodies, NGOs, local government and private individuals each accounting for over 10% of attendees (see figure 6.5). Likewise, the diversity of sectors and activities represented at the Forum was also sustained, with climate change being added as an important new component (figures 6.6 and 6.7).

During the 2010s, the proportion of academic attendees increased to just over 20%, due to their numbers holding relatively steady while other sectors declined. Stellenbosch University (SU) still presented the largest number of papers in the formal programme at 12%, with the University of Cape Town (UCT) close behind at 11%. The University of the Western Cape (UWC) dropped out of the top 10, being replaced by the greater involvement of the Nelson Mandela University (NMU) (with 3%) and Rhodes University (RU) (2%) (figure 5.1).

Although the externally funded component of the CAPE programme closed in 2014, national statutory bodies, including SANBI, the South African Environmental Observation Network (SAEON) and the CSIR, remained consistently involved in the Forum. SANBI contributed 8% of papers, and this increased slightly despite the decrease in CAPE activity. This reflected its continued involvement in a variety of interventions, including CREW (led by Ismail Ebrahim), the Red List (Domatilla Raimondo) and iSpot/iNaturalist (Tony Rebelo). SANBI's consistent involvement in the Forum has contributed to the strong representation by those engaged in policy development and governance, which continues to enrich the debate at the Forum. SANBI has a strong emphasis on capacity development—it therefore hosts many interns whom it brings to the Fynbos Forum to expose them to new ideas and potential career paths while they build their own networks.

The growing importance of the NGO sector in regional conservation is reflected in its increased representation at the Fynbos Forum. NGO engagement has been maintained during the 2010s, and due to the decline in other groups, it has increased to 15% of attendees, making it the third largest group at the Fynbos Forum after the universities and statutory national bodies. The NGO sector currently outstrips both local government and provincial agencies in terms of representatives at annual meetings. NGO representatives see the meetings as an opportunity to network and review projects and many do not present papers.

The interaction between scientists, managers and policymakers is essential to the functioning of the Fynbos Forum as a transdisciplinary knowledge network. The decline in attendance of management organisations, and particularly of the managers within those organisations, is a serious concern in the 2010s. For example, the number of CapeNature attendees has nearly halved, while the organisation's contribution to the programme has also declined significantly (decreasing from the second most dominant institution in the 1990s and 2000s to fifth place in the 2010s). Through surveys and interviews, it was determined that this reduction is driven by high levels of financial and institutional constraint, coupled with people electing to attend other, specialist meetings. Similar factors lie behind the decline in the number of managers from other provincial and national government departments. It has been noted with concern that the decrease is particularly severe among new managers, who could potentially derive the most benefit from establishing local networks. A stark indication of this weakening engagement was evident at the 2017 Swellendam Forum, when a talk that specifically targeted reserve management was attended by only two current reserve managers.

This decline in the involvement of national and provincial management organisations has been buffered in part by the support of local government, which comprised just over 10% of attendees in this decade. In particular, the City of Cape Town's contribution has increased to 8% of presentations, making it the third largest contributor of papers after the Universities of Cape Town and Stellenbosch. This has been due in no small measure to Julia Wood's active encouragement—even after stepping down as chair, she continues to be very involved and encourages employees and students of the City of Cape Town to attend. She has been actively supported in this by Forum committee members Pat Holmes and Bongani Mnisi, both of whom are also senior municipal officials. The City of Cape Town nature conservation students make an internal presentation to the City's Biodiversity Management team, and the top students are then chosen to attend the Fynbos Forum. The Forum assists with funding for these students, who in return, help with administration and audio-visual support.

SANParks, particularly the Cape Scientific Services Research Unit, has maintained its engagement with the Fynbos Forum, and shows a steady increase in its number of presentations and level of involvement in the Forum management. This has been encouraged by individuals such as Nicola van Wilgen and Carly Cowell, both of whom served on the committee during this decade and actively promoted the Forum. Although many of the CapeNature, City of Cape Town and SANParks Forum participants are scientists, they act as bridges communicating the new scientific and management concepts emerging from the Fynbos Forum to managers within their respective organisations.

Ismail Ebrahim

Ixia vinacea, critically endangered

The closure of the main CAPE projects was associated with a decline in the numbers of private individuals, and this is particularly true of consultants. This was probably due to the combination of fewer projects, reduced outreach and an increased number of alternative avenues for participation. Similar factors have probably also driven the reduced number of participants from agriculture. This is a concern for the Fynbos Forum as it reduces the diversity of its participants. The involvement of these groups in earlier years enabled the Fynbos Forum to make a significant impact on best practice in both land-management and environmental impact assessment.

Zane Erasmus

Fynbos Forum 2012 field trip

Fynbos Forum archives

Fynbos Forum 2010

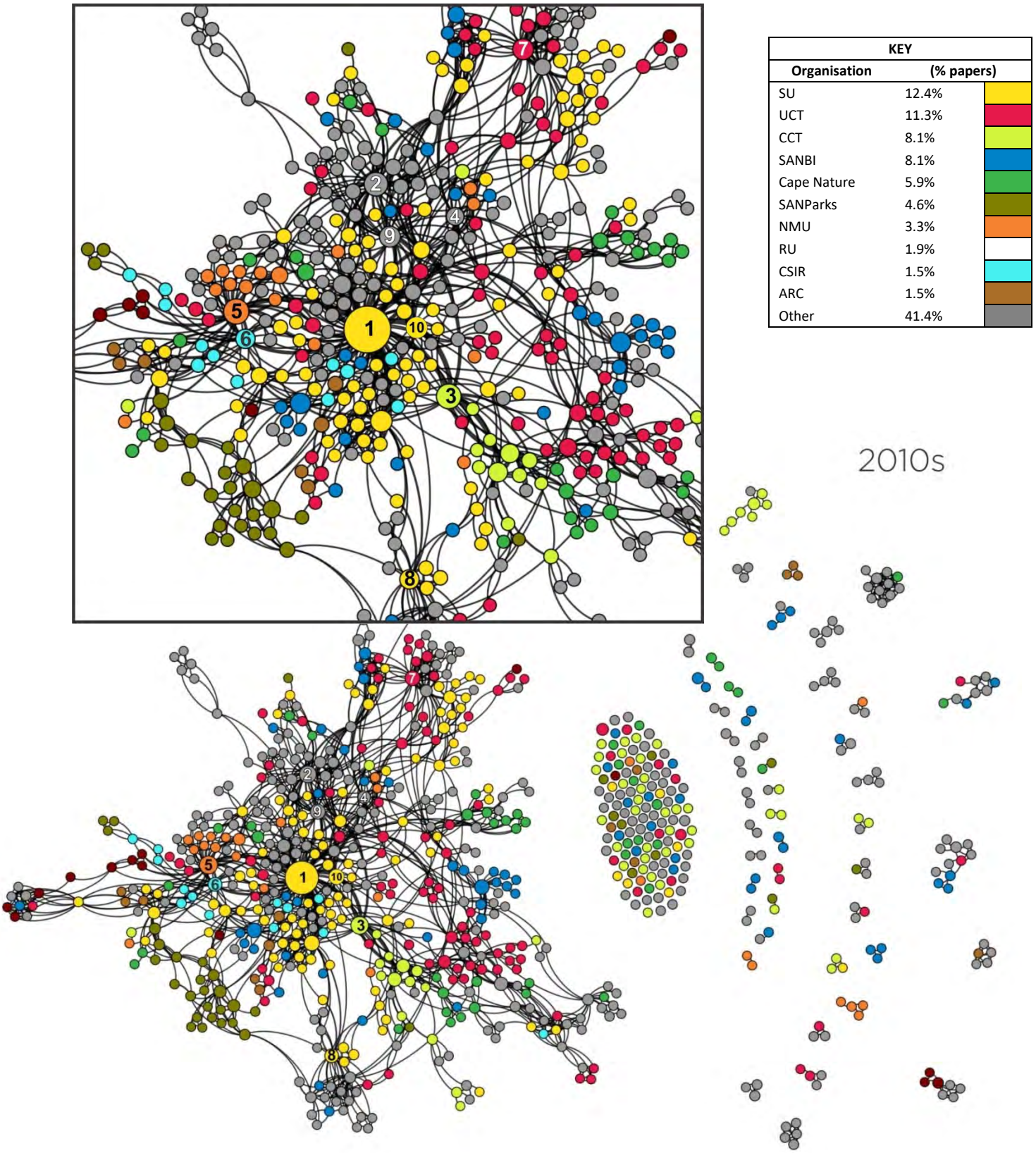


Figure 5.1: Network connectivity in the 2010s indicating the size and density of the network as well as the relationships and organisational affiliations of those within it.

Figure 5.1 continued from pg 119

The network measure depicted in this diagram is "betweenness centrality", which identifies individuals connecting otherwise remote areas of the graph. Each point represents a member of the network who has presented papers during the annual meetings. The 10 individuals with the highest scores are labelled: 1 = Karen Esler (SU), 2 = Jasper Slingsby (SAEON), 3 = Pat Holmes (CCT), 4 = Sjirk Geerts (CPUT), 5 = Richard Cowling (NMU), 6 = David Le Maitre (CSIR), 7 = Jeremy Midgley (UCT), 8 = Rhoda Malgas (SU), 9 = Nicky Allsopp (SAEON), 10 = Mirijam Gaertner (SU). Members who are close together have worked on similar subjects. The size of the point represents the number of connected papers the member presented and the shading of the point reflects the member's organisational affiliation. The key also provides an indication of the percentage of papers presented by the 10 organisations whose affiliates presented the most papers. Grey shading indicates a member who is affiliated to an organisation that is not in the top 10. Lines indicate co-production of papers. The total number of authors in this decade was 812 they are connected by 1650 links (the density of the network is 0.005). The giant component has continued to increase in importance and now includes 65% of all authors and 88% of all links.

5.4.3 Important contributors to the formal programme

As with the previous decades, an analysis of the formal programme was used as a proxy for network interaction. It is recognised that this underestimates the role of those whose contribution is largely through informal discussions and contributions to workshops, or through coordination, but nevertheless it gives an indication as to who is producing the majority of the formal content.

During the 2010–2017 period assessed for the decade's network analysis, Karen Esler of SU emerged as the central hub of the network, through whom contact was made with many others in the network. Her networking scores, measured through the assessment of her contribution to the formal programme, were more than double the next in rank for every aspect measured: the number of individuals that she was linked to, how close she was to other individuals, her role in linking different areas of expertise and how many high-ranked people she was connected to. All of which indicated the network's extreme dependence on her (figure 5.1). She is actively involved in student mentorship, and over the eight years assessed was involved in 91 collaborations. This mentorship extended to the international arena—she has invited several international keynote speakers. As the South African representative on the International Society for Mediterranean Ecologists, she is involved in convening the 2020 MEDECOS conference in South Africa in conjunction with Nicky Allsopp and the Fynbos Forum committee.

Jasper Slingsby (SAEON), who ranked second in network connectivity, is noteworthy in that he is not heading up a student programme but rather collaborates closely with a wide variety of scientists through independent research. He is closely linked with numerous scientists, many of whom are well connected. He also forms an important link between different areas of work. New in the top 20, he has gone straight into the top 5, being placed second in three categories.

Nicky Allsopp, the leader of the local node of SAEON, is another significant member of the network, scoring in the top 20 for all networking measures, thereby helping to drive the increasing importance of this organisation in the Forum. Nicky, Jasper and Karen were the South African contributors to an international research project identifying 100 questions that will direct research towards successful conservation of biological diversity in the five Mediterranean regions of the world. The group focused on gathering

perspectives for the Fynbos Biome of South Africa and a feedback paper was presented by Nicky at the 2016 Fynbos Forum.

Shayne Jacobs, also from SU, is in the top five for several network characteristics. Rhoda Malgas, Mirijam Gaertner and Stuart Hall, all from SU, are also emerging as important new players. All four scored in the top 20 for all four network measures, showing the depth of capacity that is being developed at this university. Richard Cowling (NMU), Jeremy Midgley (UCT) and Sjirk Geerts, Cape Peninsula University of Technology (CPUT) also form important nodes in the network, scoring in the top five for some of the measures, which reflects their leadership in student programmes.

Richard Cowling, David Le Maitre, Brian van Wilgen and Tony Rebelo have all maintained their contributions to the network, scoring in the top 20 for all four decades of the Forum's existence. Likewise, William Bond and Jeremy Midgely, Dave Richardson and Pat Holmes scored in the top 20 for three decades, their long history of involvement meaning that they now provide invaluable institutional memory. Pat Holmes, although based at the City of Cape Town, maintains active links with research programmes in both conservation agencies and academic institutions, making her an important bridge between management and research. Odette Curtis (ORCT) has a high networking measure, and, as a member of an NGO, she plays an important role as a link between research and implementation (for more details of the network analysis approach see appendix 3 and for the results see appendix 4).

5.4.4 Transformation

The transformation of the Fynbos Forum in terms of racial and gender equity improved in many aspects during the 2010s. Slightly over 50% of attendees were female, and over 60% of the committee and chairs in this period were women. The position of women in the network, as measured by presentations at annual meetings, was however less equitable, and gender representivity has plateaued, or even reduced, since the 2000s.[viii] There is greater gender equality in terms of those scoring highly in all network measures, making it appear that having once broken through an initial barrier there are equal opportunities for established female scientists.

Racial transformation is slowly improving in terms of attendance figures, and representation of all racial groups on the committee continues to improve. Importantly, in 2017 the Fynbos Forum appointed its first black chair, Rupert Koopman. Rupert has identified the danger of an "imposter syndrome", whereby people don't feel that they belong and therefore don't share their insights. This is evidenced by the fact that although attendance figures have improved, there are still very few black contributors who are well networked when measured in terms of their contribution to the formal programme. In this decade, less than 15% of the individuals who were most highly networked in terms of presentation of papers were black. Individuals who are helping drive transformation in this sphere are Shayne Jacobs, who has produced many papers and is very central in the network, and Rhoda Malgas, who also plays an important role in linking different groups engaged in sustainable resource use. Ishmail Ebrahim as chair of the Arid Zone Forum and

viii. Only 30% of those scoring in the top 20, as measured by contributions to the formal programme, were women.

head of the local node of CREW also plays a very important role in linking the broader region and the work done on threatened species.

5.5 IMPORTANT AREAS OF WORK DURING THE 2010s

During this decade, the Fynbos Forum supported the production of a seminal book on *Fynbos Ecology and Management*[160] as well as a revision of the *Ecosystem Guidelines for Environmental Impact Assessment*.[161] These publications have made an important contribution to regional conservation efforts. The Fynbos Forum decided to look back to record the past, hoping thereby to better understand the future, leading to the development of this book on the *History and Impacts of the Fynbos Forum*. All these publications were funded by TMF. The most important outcomes, however, have been the ongoing maintenance of a regional learning network and its support for the exciting new generation who are taking fynbos conservation forward.

At the beginning of the decade, feedback from projects funded by CAPE still formed a central component of the Fynbos Forum meetings. The concept of "Making the Case" to government for the benefits to be derived from sustainable land management and conservation was presented as a keynote address at the Kirstenbosch meeting in 2013, and was suggested as a way forward after the external grants ended. Once the externally funded component of the partnership came to an end, CAPE featured less prominently in the programme, and by 2015, the last of the CAPE representatives had resigned from the Fynbos Forum committee. In 2016, the Fynbos Forum hosted a workshop in Port Elizabeth to address alternatives for the next phase, and in 2018 at Goudini, the Fynbos Forum will host a session on the legacy of the CAPE partnership. In this decade, several NGOs have played an increasingly significant role, their growth being a vital legacy from the substantial international investment during the 2000s. At the 2017 meeting in Swellendam, TMF gave feedback on its new strategy and opportunities for involvement. At this same meeting, its new manager, Kerry Maree, was nominated to sit on the Fynbos Forum committee as vice-chair, reflecting the on-going engagement of TMF with fynbos conservation.

Although meetings were held to formulate an agreed regional research strategy, this did not move forward substantially, despite agreement on its importance. Several individual groups have each developed their own list of priorities. It is hoped that, with the support of the Fynbos Forum, these separate lists will be integrated and that the identification of common issues will once again encourage transdisciplinary work and collaboration across organisations. Although there is no agreed research strategy yet, some important themes are emerging. Climate change was addressed in a number of workshops and presentations, and its impact on individual species and fire regimes and the implications of increased drought were all discussed. The GEF funded Fynbos Fire Project, managed by Fynbos Forum chair Tessa Oliver, used the Fynbos Forum extensively as a communication platform. As the meetings decreased in size, the relative interest in fauna increased, and issues such as problem animal management and the impact of the rapidly growing game industry were also addressed. In addition to ongoing emphases on the impact of invasive alien plants and how to restore invaded areas, invasive animal control has also been discussed at the Fynbos Forum (box 5.2).

Dean Impson

Pristine river following the removal of bass to protect the indigenous Clanwilliam redfin (*Pseudobarbus calidus*). Kas Hamman in the centre photo.

Box 5.2: The Rondegat River Rehabilitation Project

Working for Water expanded its scope in 2010 to include support for projects targeting invasive animals, including fish. This resulted in significant progress in this important area of work. The Rondegat River Rehabilitation Project in the Cederberg was one such project that received support. This ground-breaking project promoted the integrated control of invasive fish and plants, a first in South Africa. All invasive smallmouth bass were removed from 4 km of the lower river using rotenone, and invasive trees (wattles, gums, blackwoods) were controlled in the riparian zone. There has been excellent recovery of the riparian zone and of threatened fish in the zone treated. The project was well documented and progress was regularly reported by Dean Impson of CapeNature. He indicated that the support of the Fynbos Forum community was a key factor in the success of this project.

5.5.1 Using workshops to facilitate debate and action

One of the Fynbos Forum's most important functions in this decade was hosting workshops—nearly 30 workshops were held between 2010 and 2017, with more no doubt to follow in the last two years of the decade. Workshops were used to reflect on the functioning of the Fynbos Forum, to provide insights for this book and to consider the way forward for the new, independent Fynbos Forum Non-Profit Company.

Fynbos Forum archives

Fynbos Forum Workshop 2010 Fynbos Forum Workshop 2016

Workshop topics included opportunities for involvement (conservation managers' forum, iSpot and SynBioSys, networking and knowledge sharing), conservation challenges (restoration, integrating fire and alien management, ex-situ conservation, assisted migration, baboon management, conservation of road verges) and discussions on sustainable use (game farming, proteas and honeybush). Workshops provided a platform for learning about funding proposals and the use of the Management Effectiveness Tracking Tool (METT) to strengthen management in protected areas. Fynbos Forum workshops were also used to share insights from environmental education and to explore new approaches to outreach. Many of these workshops facilitated local and international collaboration, supporting communities of practice and giving rise to some important initiatives. Some examples are described below:

- In 2012, the Fynbos Forum held a Symposium on *Proteaceae: Research and Management Priorities in a Changing World*. Funds for the symposium were raised from the South African-German Year of Science programme. The funding proposal for this workshop was initiated by SAEON. Held in Cape St Francis, the Forum attracted three international research groups, comprising 15 individuals from the USA, Germany and Australia, all of whom were working on South African Proteaceae. The foreign researchers gave ten presentations and another three were given by local researchers. These led into a discussion around the application of the research to the management of fynbos vegetation communities, providing an opportunity for dissemination of results beyond the bounds of academia—to many of the foreign participants this was a novel experience.

- Another important plenary session held during the 2012 meeting at Cape St Francis considered the effectiveness of the Working for Water programme. The vigorous debate that ensued led to the production of a paper addressing the challenges in invasive alien plant control in South Africa.[162]

- Following a workshop at the 2010 Citrusdal Fynbos Forum on restoration research and practice, keynote speaker and restoration ecologist, Dr Kate Hardwick from the Millennium Seed Bank Partnership, Royal Botanic Gardens Kew, facilitated research funding via that organisation for the Blaauwberg Sand Fynbos Restoration Project (see box 5.3).

Julia Wood

Working for Water Workshop at the Fynbos Forum 2012. *L to R*: Guy Preston, Debbie Muir, Brian van Wilgen, Karen Esler and Richard Cowling.

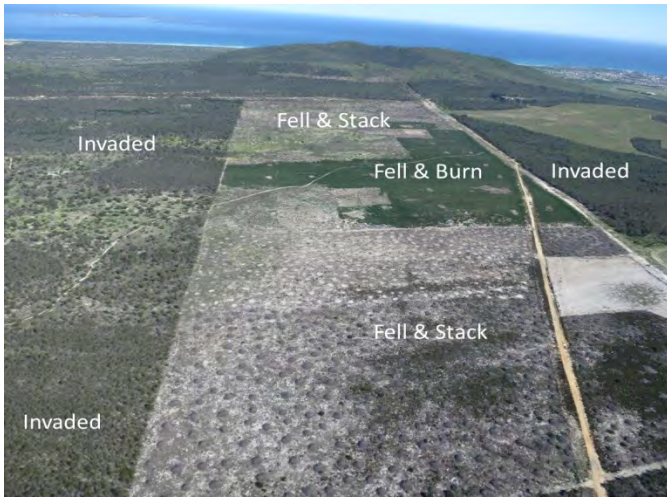
Box 5.3: The Blaauwberg Sand Fynbos Restoration Project

Many lowland vegetation types, like the critically endangered Cape Flats Sand Fynbos[ix], are so extensively transformed that extensive restoration will be needed to meet national and international conservation targets. Successful restoration in areas that have been heavily invaded by alien plants is particularly challenging and requires supportive research to develop best-practice guidelines.

Initially, the Blaauwberg Sand Fynbos Restoration Project was undertaken by a partnership, based at Kirstenbosch that included the City of Cape Town, SU and the Millennium Seed Bank Partnership. As managers of Blaauwberg Nature Reserve, the City of Cape Town were instrumental in providing on-site research support and organising resources for alien clearing, follow-up, a prescribed burn and seed collection. Contributions were also made by the EPWP (who funded the alien clearing), the ESKOM Koeberg team (who gave support for the prescribed burn) and SANBI (who assisted with seed collection).

The initial funding supported two SU post-graduate students, Mukundi Mukundumago (MSc) and Stuart Hall (PhD). This proved to be catalytic as SU later encouraged an additional five students to use the large-scale restoration site in their own work, thereby expanding the overall scope of the research.[x] Several "Work Integrated Learnership" conservation students from CPUT were assigned to conduct their research projects at the restoration site.[xi]

The outcomes of this intervention included a better understanding of the restoration requirements of renosterveld, the restoration of 96 ha of endangered sand plain fynbos and the development of capacity. Good progress was also made in identifying effective approaches to restoration. The results were presented at several Fynbos Forum meetings and were formally published in the scientific literature. A significant feature was that local stakeholders were included in the workshops; consequently, results were discussed in terms of their management implications, and future research needs were raised. The local partnership between the City and SU is continuing, and funding applications have been submitted for further research and alien clearing.



City of Cape Town archives.

Arial view of Blaauwberg Sand Fynbos Restoration Project.

ix. Only 11% of this vegetation type, which is endemic to Cape Town, remains. Restoration is therefore needed if conservation targets are to be met.

x. Additional SU students who used the study site included Alicia Krupek, Vernon Steyn, Elana Mostert, Mlungele Nsikani and post-doc Etienne Slabbert.

xi. Work Integrated Learnership students from CPUT included Karen Merrett, Dale Slabbert and Daniel Verrezuela.

Stephen Johnson

Long tonque fly on *Satyrium longicolle*.

5.5.2 Supporting community engagement

The interest in community participation and plant use, which emerged during the CAPE period, has been maintained. This has been supported by the ongoing engagement of the Forum in the field of environmental education. The Institute for Plant Conservation supported an award in memory of Theo Manuel, extending from 2008 to 2014, which recognised the best presentation on conservation education at the Fynbos Forum (box 5.4). Biodiversity stewardship and freshwater conservation continue to be important themes, supported by innovations in communication and by incentives that strengthen engagement with stakeholder communities.

Box 5.4: The Theo Manuel Award

Theo Manuel graduated from the Plant Conservation Unit of the University of Cape Town in 2006 with a PhD thesis that expressed his passion for both conservation and education. He was associated with the Botany Department for 25 years. He had to overcome many challenges, which included entering a field of study where people of colour were rare due to apartheid, promoting environmental education before this became institutionally supported and overcoming personal physical disabilities that made any physical activity, from writing to walking, a challenge.

Plant Conservation Unit archives

His innovative PhD earned him a Silver CAPE Conservation Award. His plans to take this further were tragically cut short by his death in 2008. In order to encourage others to enter this important field and to honour his contribution and memory, the Plant Conservation Unit decided to establish this award for the best presentation in the field of conservation education. It was decided to select awardees from presentations made at the Fynbos Forum as Theo had frequently used the Forum to share his findings over the years.

Theo Manuel Recipients:

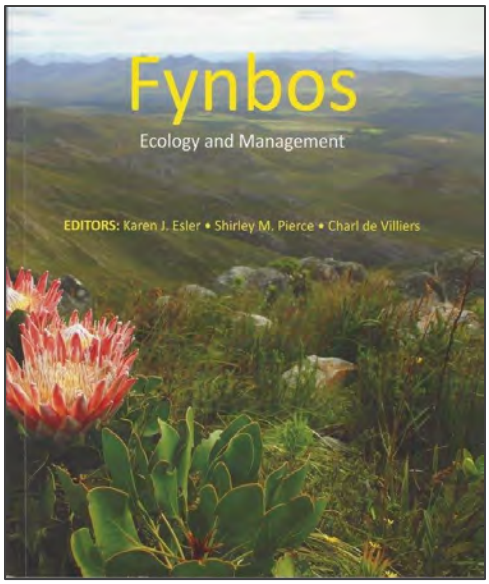
2014	Anri Marais: this young speaker was a Groen Sebenza Pioneer from the CREW programme who interviewed older Mamre residents about their use of local plants. Bongani Mnisi (CCT): for his video on his work with school children in the Cape Peninsula.
2013	Bongani Mnisi (CCT): for his poster on creating biodiversity friendly islands in schools to create stepping-stones for nectar feeding birds. Leif Petersen and Andrew Reid: for their paper on the creation of medicinal street gardens in Seawinds, Cape Town and for Leif's ongoing work in this area.
2012	George Davis and his colleagues from STEPS (Social Transformation Empowerment Projects): for their paper and workshop on "Developing the nature conservation narrative through film and storytelling."
2011	Lameez Eksteen from UWC: for her poster on "Visitor Perceptions of False Bay Coast Nature Reserves", which built on Theo's work at Wolfgat. Shannon Parring and Bettina Koelle from Indigo Development and Change: Participatory video making as a tool for change.
2010	Augustine Morkel from SANBI: for his work organising the annual Kirstenbosch Biodiversity Expo.
2009	Alice Ashwell: for her paper on "How teens feel about nature" and in recognition of her long-term contribution to this field of work.
2008	Wilma Strydom of CSIR: for her MSc work on the effectiveness of educational resources in teaching learners and adults about river health.

George Davis

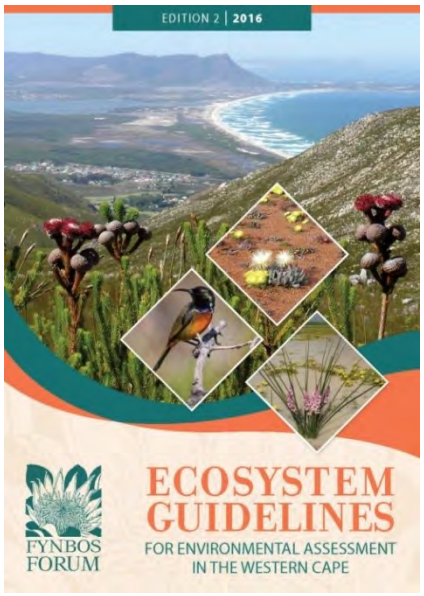
Bongani Mnisi with children from Muizenberg High.

5.5.3 Developing guidelines to make knowledge accessible

In recognition of the importance of translating new scientific insights into accessible and applicable knowledge, the Fynbos Forum motivated for the compilation of a handbook on fynbos management. The objective was to make advances in the scientific understanding of fynbos management accessible to as broad an audience as possible. In 2014, the publication *Fynbos Ecology and Management*[163] was completed with the support of the Table Mountain Fund. It provides well-illustrated recommendations for practical management, based on the latest knowledge of fynbos ecosystems and is aimed specifically at landowners and managers. This comprehensive book was edited by Karen Esler, Shirley Pierce and Charl de Villiers, with the support of 33 contributing authors. Coordinating such diverse inputs required an enormous amount of effort and insight. The book was dedicated to Chris Burgers in recognition of "his passion and dedication to the conservation of the fynbos."



The Fynbos Forum's *Ecosystem Guidelines for Environmental Assessment in the Western Cape* were revised by the Fynbos Forum in 2016. Mandy Cadman, editor, explains that "The objective was to better align [the guidelines] with new legislation and tools which have been developed, and to add additional ecosystem groups and update the content to reflect the latest understanding." For example, it makes specific references to relevant sections of the recently published handbook, *Fynbos: Ecology and Management* (2014), described above. Also incorporated into the *Guidelines* are new insights into the underlying science of vegetation classification and conservation planning, including a more detailed section on wetlands. This revision was co-ordinated by Pat Holmes with the support of the Table Mountain Fund. Most of the original authors updated their sections. Tessa Oliver assisted, especially towards the final stages with sourcing photographs.



5.5.4 Building capacity and strengthening networks

Julia Wood

Mfundo Tafeni at the Fynbos Forum 2010.

One of the most important functions of the Fynbos Forum has been to build the capacity of young professionals and to provide opportunities for them to network. There has been a strong emphasis on making the meetings accessible to young people by keeping the costs of accommodation and attendance as low as possible. At a workshop on networking and knowledge sharing held during the Kirstenbosch meeting of 2013, the need for networking support and improved access to information were emphasised. At the 2016 workshop on "The Fynbos Forum of the Future" held in Port Elizabeth, the vast majority of young people identified networking and mentorship as their top priorities. They went on to suggest innovative approaches for strengthening this aspect of the Fynbos Forum, which are detailed in Chapter 8 (section 8.2.3).

Innovation Scholarships have continued to be an important incentive, providing support to 11 exceptional MSc and PhD students during this decade (see box 4.4).

The GEF-funded Fynbos Fire Project was very significant in terms of regional capacity building. Among the national capacity building programmes were some with a strong Western Cape presence. The Groen Sebenza environmental capacity building programme, led by SANBI, appointed many young graduates in the region to participate in an internship programme in conservation, and many of these interns attended the Fynbos Forum. In collaboration with the City of Cape Town, the CTEET is actively involved in several capacity building programmes and has also provided funding to enable young conservationists to attend and present at the Fynbos Forum.

Cliff & Suretha Dorse

Encephalartos longifolius, Kouga Sandstone Fynbos

Cliff & Suretha Dorse

Green Protea Beetle (*Trichostetha fascicularis*) on *Protea lepidocarpodendron*

Box 5.5: Groen Sebenza

Kristal Maze

Boitshekwane Kgantsi, Groen Sebenza intern with her mentor, Azisa Parker.

The Groen Sebenza programme[xii] was set up to address capacity constraints faced by South Africa's biodiversity sector. The programme ran for two and half years, from 2013 to 2015, and provided work experience in the environmental sector for previously disadvantaged youth.

Groen Sebenza was funded by the President's Job Fund via the Development Bank of South Africa. It was implemented in partnership with 32 environment and biodiversity organisations who hosted the "pioneers". These organisations included the Department of Environmental Affairs; SANParks; SANBI; CCT; Cape West Coast Biosphere Reserve; Nelson Mandela Bay Municipality; CapeNature; BotSoc; WESSA[xiii]; NCC Environmental Services; and WWF-SA.

It was based on an "incubator model" and gave 800 unemployed graduates and 300 school leavers the opportunity to gain meaningful workplace experience through a structured mentoring programme, together with skills development and training opportunities. Groen Sebenza also focused on sustainable employment, where some organisations created additional jobs to cater for the graduates or else employed them in existing positions. By the end of the programme, most graduates had found full-time employment, many of them within the conservation sector, while others had elected to do further studies.

Many of the organisations hosting the interns were involved in conservation in the Cape Floristic Region and they encouraged their interns to attend the Fynbos Forum. For example in 2015, Groen Sebenza funded 10 of their City of Cape Town interns to attend the Fynbos Forum in Montagu.

The Fynbos Forum has continued to support other networks and has provided an interface for the NRM and CAPE to interface with the local community. The 2010s have been a period of maturation in the life of the Fynbos Forum, a time when the bulge of membership experienced while benefiting from the peak of CAPE funding has moved on, leaving the organisation leaner but still highly committed to making a positive impact.

The organisation reflects a great depth of leadership and knowledge of the field, and its members continue to engage with new and challenging frontiers. It is exciting to see that a new generation of young conservationists is developing. The decade still has a couple of years to run, but the Forum's registration as an NPC, with the potential for fundraising and conducting its own projects, offers exciting vistas into the future.

xii. Groen is green in Afrikaans and sebenza is work in isiZulu.
xiii WESSA is the Wildlife and Environment Society of South Africa.

Kay Montgomery

Participants at the Fynbos Forum 2017

Cliff & Suretha Dorse

Protea cynaroides (King Protea) in the Kogelberg Nature Reserve

Stephen Cousins

Babiana odorata, endangered

Caroline Gelderblom

Fynbos Forum 2017

CHAPTER 6: WHO ATTENDS AND WHAT IS DISCUSSED?

CHANGES IN ATTENDANCE AND CONTENT OVER FOUR DECADES

Thirty-nine years of annual programmes and attendance lists offer insights into the long-term trends and drivers of change in the Fynbos Forum. These records, available on www.fynbosforum.org.za, make it possible to determine who attended these annual meetings, and what topics were covered. Here we describe and discuss some of these trends, but defer detailed interpretation to Chapter 7.

The first section of this chapter describes the membership composition and changes in attendance over the four decades. The diversity of attendees over the years has enabled the Fynbos Forum to play a significant role in the country as a multidisciplinary learning network. In every decade, there have been champions who have helped to drive the process forward, drawing others in and ensuring that the Forum includes a wide breadth of perspective. In recent years, there has also been increasing diversity in both gender and race—reflecting changes in the conservation sector and transformation in the country as a whole.

Over the years, the presentations at the annual meetings covered a diverse range of topics, which again reflected the changing national context and the evolving priorities of the conservation sector. The last section of the chapter summarises the themes that dominated the programmes and explores how these changed over the years.

6.1 PATTERNS OF ATTENDANCE

6.1.1 How many attend the annual conferences?

The annual conferences of the early Fynbos Biome project, which ran from 1979 to 1989, were attended by approximately 100 people (figure 6.1). An exception occurred in 1985 when many visitors attended a report back on the first phase of the project. The Fynbos Biome Project ended in 1989, but the number of attendees was largely maintained during the 1990s, with an average of 82 participants per annum. This resulted from the ongoing commitment of individuals to the cross-disciplinary, inter-organisational nature of the meetings. Numbers climbed gradually at the turn of the century when preparations for the Cape Action for People and the Environment (CAPE) resulted in the initiation of some large, internationally funded projects.

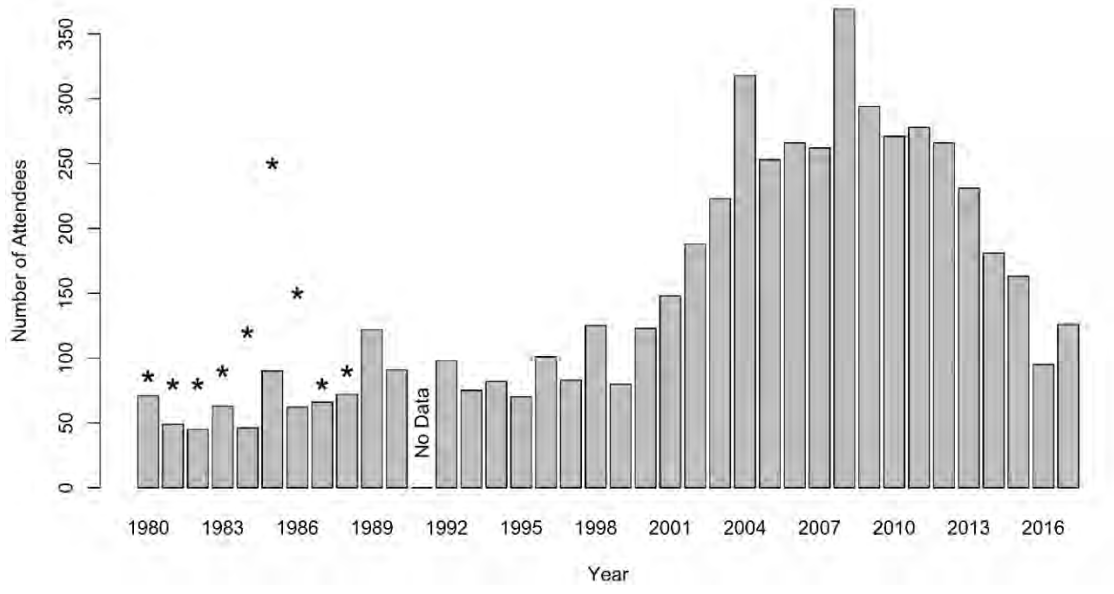


Figure 6.1: Attendance numbers at annual meetings over 39 years.

For the first 10 years, numbers were extracted from the programme as the majority of attendees presented. The FRD management reports also estimated attendance numbers, which are represented by the asterisks. For the later years (from 1989 onwards), the numbers of attendees were determined from attendance records, which are available for all years except 1991.

A dramatic change came in 2004 when attendance increased to 314 as the main CAPE programme got under way, providing significant additional funding for work and capacity development in the region. Attendance numbers remained over 250 until 2012. From 2013, there was a gradual decline in attendance driven by administrative challenges, increasing financial constraints and competition from new specialist meetings.

The lowest attendance was in 2016 when unexpected municipal elections necessitated a late change in date and a clash with other important meetings.

6.1.2 Profiles of individual attendees

A total of 2455 people are recorded as having attended the annual meetings between 1979 and 2017 (see appendix 5).[i] Of these, over 57% attended only once (figure 6.2). These once-off attendees included a large number of students who presented at the Fynbos Forum as part of their honours, master's or nature conservation studies and who then moved on to other fields or other geographic locations. There were also local people who attended only when the Forum was held in their area, and some overseas visitors and specialists who attended a specific meeting.

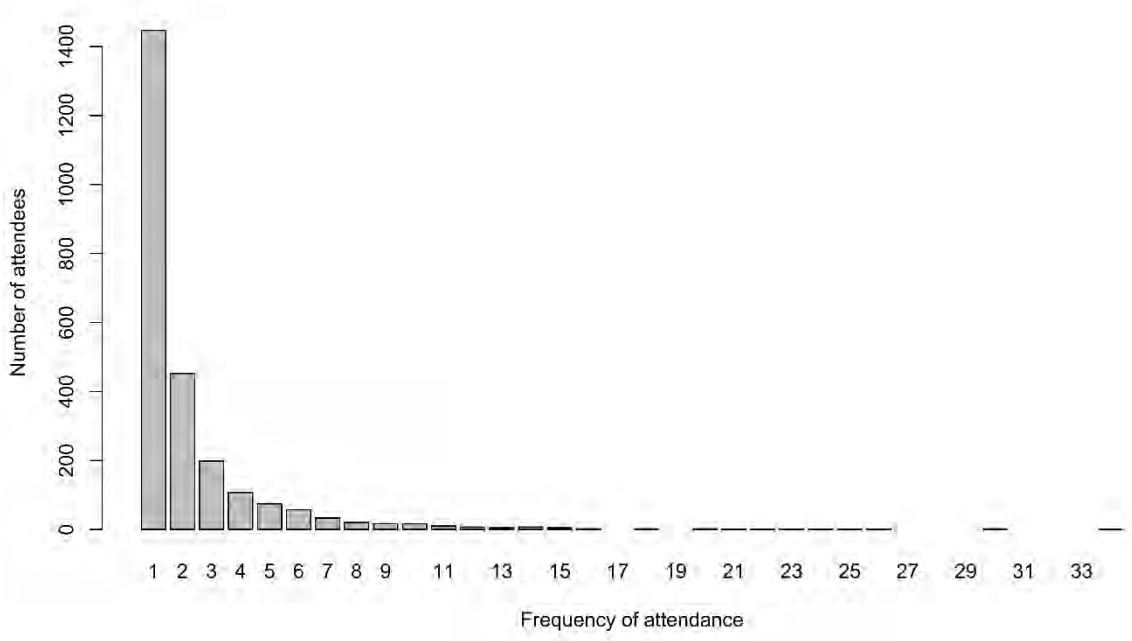


Figure 6.2: Patterns of individual attendance showing number of attendances in the course of 39 years.

Figure 6.3 shows the names of the 104 dedicated individuals who attended eight or more meetings in the 1979 to 2017 period: these stalwarts are the glue that has held the Fynbos Network together. Their names are in bold in the attendance list in appendix 5. Many of these people continued to attend when their organisations were unable to provide support, taking leave and paying for themselves. Among them are 11

i. As the figures for 1991 are missing and some late registrations were not captured in attendance lists, the actual numbers are a little higher than indicated.

"champions" who have attended at least 20 meetings.[ii] These champions come from a diversity of backgrounds that include academia, statutory bodies, a provincial conservation agency, non-government organisations (NGOs) and private individuals. The contribution of many of these people has been described in some detail in the history chapters.

Figure 6.3: Names of those who attended the Fynbos Forum most frequently in the 1979 to 2017 period. The size of each name is proportional to the number of meetings attended. Those who started attending in the 1980s are in green, those who started in the 1990s are in blue, while those who began attending after 2000 are in red.

ii. Anthony Rebelo, Pat Holmes, Richard Cowling, Julia Wood, Christo Marais, Maryke Middelmann, David Le Maitre, Anthony Hugh Marshall, Brian van Wilgen, AnneLise Schutte-Vlok and George Davis.

Nigel Forshaw

Tony Rebelo, pictured here with *Erica fascicularis* in front and *Mimetes stokoei* behind, has attended the most meetings of all the Fynbos Network participants.

6.1.3 Motivation for attendance

The sustainability of the Forum is driven by the value derived by its members. In preparation for the development of this book, over 50 personal interviews were completed between 2015 and 2018. In addition, a survey was undertaken in 2016 to identify what was important to Fynbos Forum members and what they would like to see improved. The results indicated that the most important feature that continues to attract participants to the annual Forum meetings is the range and quality of inputs by scientists and managers, both through the papers presented and in the contributions to debates (figure 6.4).[iii] A close second is the opportunity for networking, and in particular, the opportunity to create links between research and management. The multidisciplinary character of the meetings is also seen as important. The collegiality, non-partisanship and sense of community and common purpose are critical for many, and are enhanced by the voluntary nature and the relative informality and sociability of meetings. Participation in Forum activities offers participants opportunities for personal career development and exposure through presenting papers,

iii. In the 2016 survey, 92% of respondents indicated that the scientific inputs were important to them, followed closely by the opportunity to network (90%) and inputs from management (83%).

facilitating sessions and workshops and participating on Forum committees. People also appreciate being kept up to date with job opportunities and events that enable them to contribute to the conservation of the region. All of these features contribute towards the Fynbos Forum's functioning as an effective community of practice.

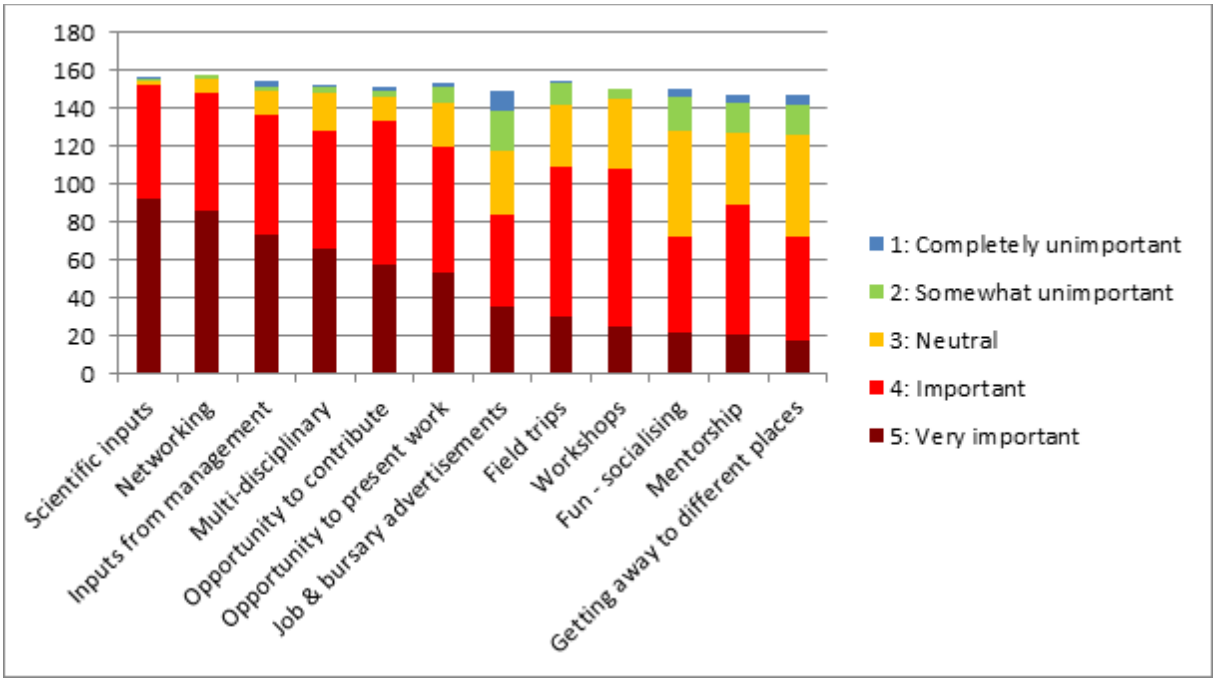


Figure 6.4: Importance of different characteristics of the Fynbos Forum (responses to a survey undertaken in 2016, 164 participants).

6.1.4 Implications for network connectivity

During the 1980s and 1990s, the Fynbos Network as a whole included about 250 authors who had a high level of interconnectivity (figures 2.1 and 3.1.) The close-knit core of the network[iv] comprised about 50 authors with a networking score of (0.046). The average number of links supported during this period was 245 in the 1980s, increasing to 260 links in the 1990s.

In the 2000s and 2010s the total size of the Network increased nearly fourfold to over 800 authors and was associated with a much higher turnover between years (figures 4.1 and 5.1). The network connectivity for both the total network and the core halved compared to levels measured in the previous two decades—indicating that the network became less close-knit as it grew in size. This does not, however, indicate that the network was less valuable as within subgroups or communities of practice there were still close bonds. Moreover, the total number of links or connections between individuals supported by this growing network increased six-fold to 1500 in the 2000s and to 1650 in the 2010s, and the decade still has two years to run—indicating that being part of this large network provides access to an increasingly wide variety of expertise.

iv. The "giant component" comprised that part of the network with the most connected actors.

There was a steady trend of more people being included in the core of the network. In the 1980s, only 26% of authors were part of the core, this increased to 35% in the 1990s and rose still further to 57% in the 2000s. Currently, 88% of authors are linked to the core of the network. The people playing the most important role in maintaining network connectivity are the bridges who link different areas of work. They are particularly effective as mentors enabling new people who join the network to interact with the wealth of experience in the network as a whole, and not surprisingly, they often lead student programmes.

6.1.5 Profile of participants – Increasing diversity

Long-term trends relating to participants' affiliations, the sectors they came from and the activities they were engaged in were extracted from the attendance lists and programmes. Two detailed snapshot surveys were done of the profile of participants in 2003 and in 2016, the results of which confirmed the general trends generated from the analysis of the attendance lists.

There was an overall increase in diversity in all three of these measures over time (figures 6.5, 6.6 and 6.7). This indicates that the Fynbos Forum has successfully increased the breadth of its sectoral involvement and its diversity in terms of organisations and the skills of participants. This measurable increase in transdisciplinarity has enriched and broadened the scope of input and debate over each of the four decades it has been meeting. When interpreting these graphs, it should be remembered that they represent the relative percentages of each type of attendee and not absolute numbers.[v] Detailed discussions of the changes in absolute numbers are provided in the history chapters (Chapters 2, 3, 4 and 5). The section below reviews long-term trends in terms of the proportions of the different categories of attendees.

One of the most significant trends over the four decades has been the increased diversity of the organisations involved in the annual meetings. As highlighted in Chapter 2, section 2.5.1, the attendees at the early meetings of the Fynbos Biome Project were predominantly academics based in universities, while in recent years no one type of organisation has dominated (figure 6.5).

In the 1990s, the increased involvement of provincial management organisations facilitated interchange between science and management. For this reason, the substantial decline in attendance in the 2010s by management organisations, particularly by the provincial conservation agency CapeNature, is a matter of serious concern. This is illustrated in figure 6.5, which shows that having been the largest single group of attendees in the 1990s and 2000s, the attendance of provincial statutory organisations decreased rapidly to 6th place in the 2010s.

v. As the overall number has changed over time, the percentage of attendees from a particular group can change despite the number remaining relatively constant. For example, although the number of academics attending the annual meeting has been about the same, the percentage of academic attendees has changed significantly over the decades.

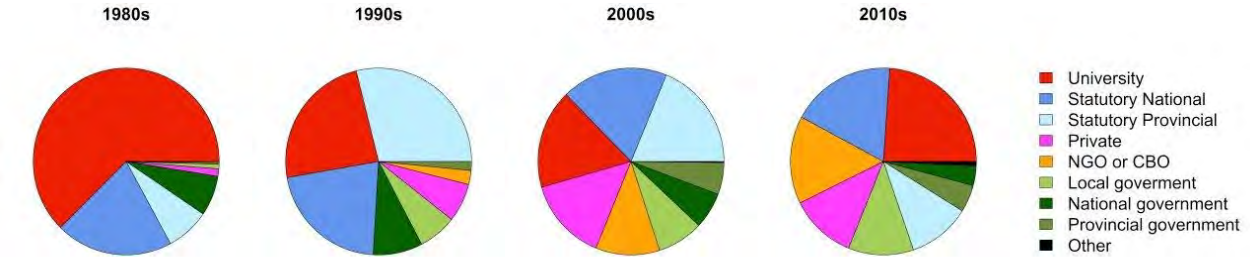


Figure 6.5 Profile of attendees per decade showing trends in the affiliation of attendees – categorised by organisation type.

The continued engagement by national statutory bodies, such as the South African National Biodiversity Institute (SANBI) and the CSIR, has helped to keep meetings diverse, maintaining the Forum's involvement in policy development and governance. Indeed, this group has remained the most stable over the 40 years of the Fynbos Forum's existence, ranging consistently between 18 and 21% of attendees.

An encouraging trend has been a steady increase in the involvement of the NGO sector, reflecting their increased role in the conservation of the fynbos. The private sector has comprised a significant component of the Fynbos Forum since the 2000s, and it includes industry, landowners, consultants and those involved in promoting sustainable use.

The environmental sector[vi] has consistently accounted for over 70% of attendees (figure 6.6), which is hardly surprising given the Fynbos Forum's mission. Within this sector, those involved in conservation management have become increasingly prominent, and this includes government conservation agencies, the NGOs and private conservancies. Organisations addressing climate change constitute an important addition to this sector in recent years. An encouraging trend has been the steady increase in the number of organisations and individuals supporting planning and sustainable use, reflecting the conscious mainstreaming of conservation into those sectors. In contrast, figure 6.6 also shows that there has been a substantial decline in the engagement of forestry and agriculture, which probably reflects the institutional restructuring that occurred in those sectors.[vii] In agriculture, this has been buffered to a certain extent by the establishment of links between business and biodiversity initiatives; however increased engagement with the agricultural sector should be a priority for the Fynbos Forum in the future.

vi. For the purposes of this analysis, the environmental sector was defined as those involved in conservation management, biodiversity research and in other environmental specialities such as earth sciences and environmental management.

vii. In the past, both of these departments had substantial conservation units. These were consolidated into the mainstream conservation sector in the 1990s. For further discussion on this see Chapter 3, box 3.1.

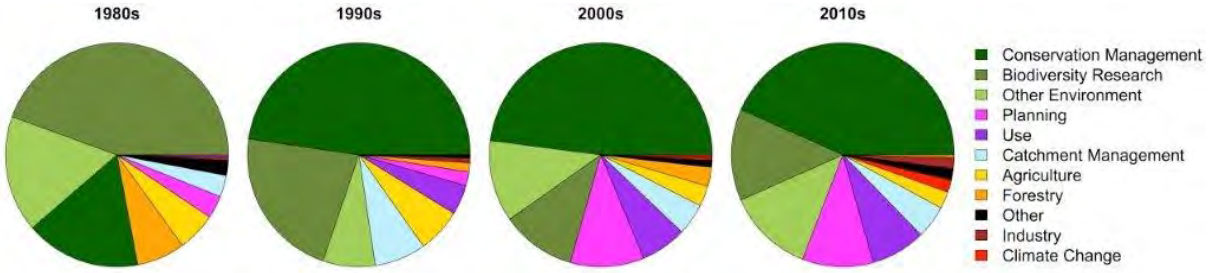


Figure 6.6 Profile of attendees per decade showing trends in the sectoral involvement of attendees.

Figure 6.7 shows an encouraging increase in the diversity of skills represented at the Fynbos Forum meetings over the years. In the 1980s, the vast majority of those involved were academics, even if based within management organisations such as Forestry and Agriculture—indeed the figures shown here are conservative and the number of "hands on" managers involved in the Fynbos Biome Project was very low. In contrast, the 1990s show a significant influx of managers, a change that was maintained through the next two decades. In the 2010s, as indicated in figure 6.6, fewer of these managers represent the provincial conservation agencies and more are from local government and private conservancies. Since 2000, Forum members have become increasingly involved in policy and governance. This group includes members of SANBI and also the staff of many NGOs. Private consultants and private landowners comprised significant groups in the 2000s and 2010s, contributing to the diversity of the debate and providing a practical perspective.

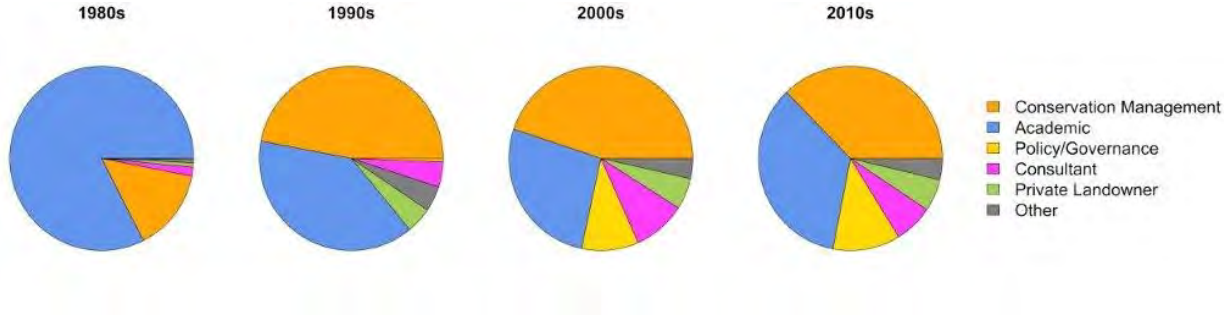


Figure 6.7 Profile of attendees per decade showing trends in the type of work in which attendees were involved.[viii]

6.1.6 Encouraging transformation

The diversity of attendees has increased over the last four decades in terms of racial and gender representivity, and this is reflected in similar increases in diversity among the Forum's leaders.[ix]

viii. This reflects as far as possible the training and normal daily activities of participants, taking cognisance of the fact that the representatives of conservation agencies attending the Fynbos Forum are frequently their scientific staff, and that people employed by industry may be conservation managers responsible for managing private reserves.

ix. The profile of the participants was extracted from the attendance lists: gender was assigned from their first name and title or from personal knowledge. Although a few were unknown, the majority could be identified in this manner. A similar process, using names, personal knowledge and social media profiles, was used to determine previously disadvantaged individuals (black), but this was more difficult to do and a large percentage consequently

The majority of attendees at the early meetings were white males, and less than two percent were black (in the 1980s, nearly 80% of attendees were male - figure 6.8). As discussed in greater detail in Chapter 2, the male dominance in the leadership structure and in presentations at the annual conference of the Fynbos Biome Project reflected the demographics and power structures in science in South Africa in the 1980s under apartheid. The 1990s showed gradual improvement, with the average percentage of female attendees increasing to just under 30%. The number of women on the committee[x] climbed steadily during this period, but representivity in terms of race was still highly skewed (for more details see Chapter 3). In the 2000s, over 45% of attendees were female and over 20% were black. As discussed in Chapter 4, women began to play strong leadership roles in the 2000s and their contributions to the formal programme also strengthened to nearly 40%. The 2010s are characterised by greater gender equality in terms of the composition of attendees, and in this decade women slightly outnumber men in terms of attendance and involvement on the committee.

Although, in 2018 the top scoring individual in the programme-based network analysis is a woman (Karen Esler), women make up only 30% of those who are most highly networked as measured by presentation of papers. This is likely to be a result of women being under-represented in mid-career research positions. There are plenty of female students and there are strong female research leaders, but there appear to be barriers to transition. Many mid-career female participants are consequently holding management and consulting positions where performance is less closely tied to presentation of papers. They therefore attend the conference to network and learn rather than to present. This could also be a legacy of earlier years when women were largely absent.

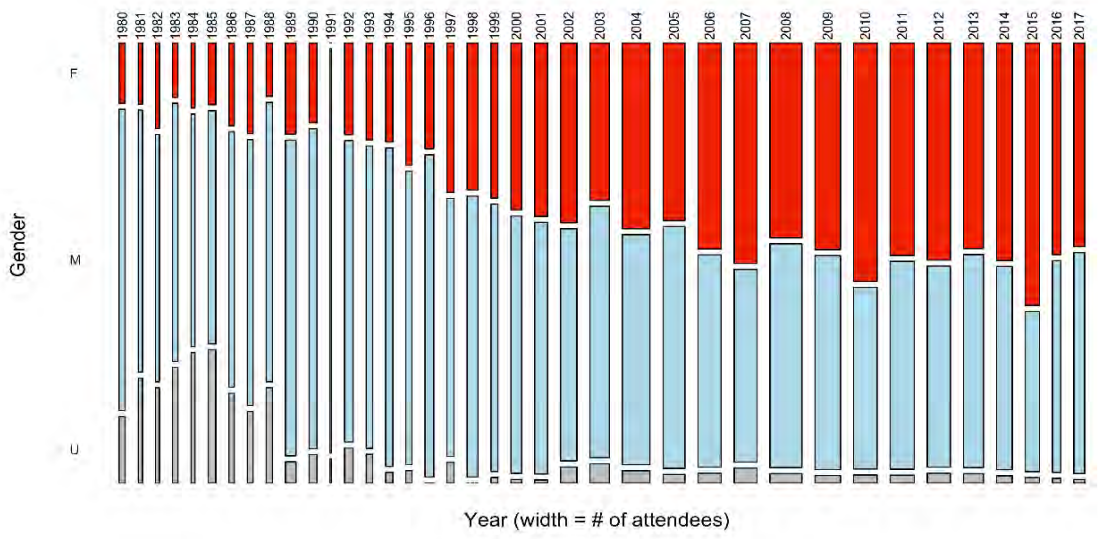


Figure 6.8: Changes in the gender profile of attendees (red indicates female, blue male and grey unknown).

remained undetermined. For this reason, racial transformation figures must be viewed as conservative and have not been depicted graphically.

x. Committee lists were available from the project's initiation in 1977.

Racial transformation has improved in the last decade as measured by attendance figures and participation in management structures, but representation on the formal programme still lags behind (Chapter 5). Again this is likely to be driven by many mid-career black participants holding management rather than academic positions and reflects broader challenges in South Africa in terms of transforming academia. Of the 100 most frequent attendees, only 10 are black and 29 are women—this is a reflection of the historical situation and indicates how long it takes to achieve complete transformation.

Julia Wood

Palmiet River, Kogelberg

6.2 THEMES – WHAT IS DISCUSSED AT THE FYNBOS FORUM?

In order to identify trends in the themes discussed in the Fynbos Forum, the titles and abstracts were analysed. Programmes were available for all 39 annual meetings from 1979 to 2017, and abstracts were available for all years except 1980, 1991 and 1993. For the purposes of this book, the content of the presentations was determined by reading each abstract,[xi] noting in which session it was delivered and then making an overall assessment of its primary emphasis, using an inductive coding approach. Through a process known as abstraction, 22 article level topics were merged into 14 higher order themes.[164] These data were used to assess the changes in the contributions to the high-level themes over the years. Additionally, the top contributors (authors) for each theme and the most frequently used words were identified.

xi. Where the abstracts were not available, the analysis was based on the titles and sessions.

The relationships between the 14 themes were visualised by using a social network analysis (see appendix 4), where links between themes (the nodes) represent papers which integrate themes and the node size indicates the number of presentations allocated to a particular theme.[165] Node colour was determined by using a community detection algorithm in Gephi.[xii] Nodes of the same colour are related to one another in that they share common authorship. As can be seen in figure 6.9, the two broad clusters that emerged from this analysis were focused around biological themes (blue), in which the biggest nodes were "aliens, fire and restoration" and "flora", and around human/management themes (red), in which the largest nodes were "conservation management" and "community interaction".

The purple links show areas where there were particularly strong connections between human/management and biological themes. Unsurprisingly, at the Fynbos Forum, conservation management is frequently closely linked with "aliens, fire and restoration" and with "community interactions" (figure 6.9). This reflects the substantial body of integrated work that is being undertaken in this field in the Fynbos Region. Tables 6.1 and 6.2 provide a detailed breakdown of the topics within each of the themes used for this analysis.

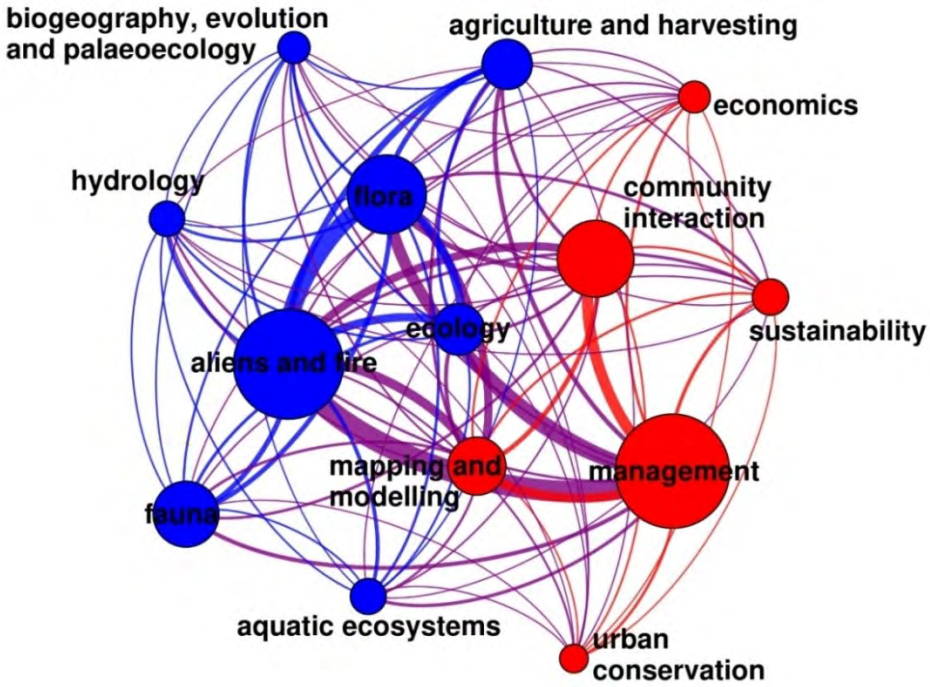


Figure 6.9: Analysis of themes discussed at the Fynbos Forum and their interrelationships.

xii. Gephi is an open-source network analysis and visualisation software package written in Java on the NetBeans platform.

The 14 nodes are identified by abbreviated titles that relate to themes described in tables 6.1 and 6.2. The colour indicates whether the theme is more closely related to the flora and aliens, restoration and fire nodes (blue cluster) or to conservation management, and community interaction (red cluster), with purple indicating links between the clusters. The thickness of the lines connecting the nodes corresponds to the number of authors common to connected themes.

Table 6.1. *Eight Biological themes discussed at Fynbos Forum meetings, indicating the percentage of papers and authors for each theme and highlighting the most prolific authors by theme*

Theme	% Papers (n = 2323)	% Authors (n= 1614)	Most prolific Authors
Aliens, fire, restoration: ecological impacts of fire and invasive alien plant ecology and associated activities such as rehabilitation	17.5%	25.7%	Esler K, Holmes P, Richardson D, Le Maitre D, Milton S, Knight R, Jacobs S, van Wilgen B, Macdonald I, Gaertner M
Flora: plant diversity, identification, structure and function—traditional botanical research	11.1%	16.8%	Esler K, Rebelo AG, Cowling R, Midgley J, Knight R, Bond W, Pierce SM, Dreyer L, Le Maitre D, Anderson B
Fauna and Fungi: vertebrates, invertebrates and microorganisms	8.5%	15.0%	Loos MA, van Hensbergen HJ, Krug C, Anderson B, Cunningham M, Curtis O, Lee A, Giliomee JH, O'Riain J, Midgley J
Ecology: ecological interactions, ecosystem processes and functioning, and biodiversity that falls outside the scope of 'aliens and fire', 'flora' and 'fauna'	5.6%	9.8%	Bond W, Cowling R, Esler K, Low B, Mitchell DT, Stock WD, Witkowski E, Lewis OAM, Knight R, Allsopp N
Agriculture and harvesting: agricultural land use, harvesting and farming	4.9%	9.8%	Malgas R, Esler K, Cowling R, Gaertner M, Privett S, Bailey R, Chimphango S, Treurnicht M, Littlejohn G, Blomerus L
Hydrology: hydrological processes and function, water resources and hydrobiology	2.5%	4.6%	Day J, Le Maitre D, Gardiner AJC, King JM, Davies BR, Schutte KH, Esler K, Raitt L, Rebelo AJ, Kruger FJ
Aquatic ecosystems: aquatic ecosystem structure, function and ecology	2.4%	5.2%	Impson D, Knight R, Boucher C, Low B, Belcher A, Day J, Buckle J, Wheeler M, Job N, Pond U
Biogeography, evolution and palaeoecology: the biological history of the region including the ability of the Fynbos Biome to sustain early human life	1.9%	3.2%	Scholtz A, Potts A, Deacon HJ, Esler K, Hoffmann MT, Gillson L, Parkington J, Cowling R, Singels E, van Wijk Y

Table 6.2. *Six Management themes discussed at Fynbos Forum meetings, indicating the percentage of papers and authors for each theme and highlighting most prolific authors by theme*

Theme	No of Papers (n = 2323)	No of Authors (n= 1614)	Most prolific Authors
Conservation management initiatives: their operational aspects, program evaluations, policy and legislation	19.7%	28.3%	Rebelo AG, Wood J, Holmes P, Cowling R, van Wilgen B, Esler K, Raimondo D, Curtis O, Dorse C, Ebrahim I
Community interaction: community engagement, education programs, knowledge exchange, social issues and community projects	13%	20%	Ebrahim I, Cowling R, Wood J, Morkel A, Esler K, Ashwell A, Knight A, Krug C, Martens C, von Witt C
Mapping and modelling: data collection and management, applications in monitoring and evaluation and mapping exercises	6.9%	13.4%	Rebelo AG, Knight R, Allsopp N, Cowling R, Esler K, Boucher C, Ebrahim I, Krug C, van Wilgen B, Slingsby J
Sustainability: climate change and resilience, including human mediated climate change, its impacts and adaptation	2.9%	5.8%	Cowling R, Pasquini L, Rebelo AG, Midgley G, Maze K, Musil CF, van Wilgen N, Goodall V, McGeoch M, McDowell C
Economics: business, tourism, economic assessments and valuations	1.9%	3.8%	Marais C, Morkel A, Mustart P, Middelmann M, de Wit M, Scott M, Turpie J, Malan G, Scott A, Cowling R
Urban conservation: conservation in the urban context, including natural lands and urban greening	1.3%	2.3%	Gibbs D, Wood J, Holmes P, Dorse C, Anderson P, Davis GW, Koopman R, Jackelman J, Rossouw A, Britton P

Stephen Johnson

Brunsvigia marginata, spectacular amaryllid in mountain fynbos

6.2.1 Trends in themes over four decades

Data collected from the titles and abstracts were used to provide deeper insights into changes in the themes of papers over time. Figure 6.10 shows these trends as analysed over five year periods. Over the four decades covered by the analysis, some clear trends are evident. Biologically themed papers addressing topics such as the ecology of fire, aliens and rehabilitation, as well as studies of flora, fauna and aquatic ecosystems, comprised nearly 90% of the papers in the first five years. This proportion steadily decreased to reach a low between 1995 and 2000 as South Africa re-evaluated its priorities in the light of its new democracy. This trend swung back in the 2000s until the two broad clusters "aliens, fire and restoration and flora" and "conservation management and community interaction" were equally represented in 2010.

"Aliens, fire and restoration" ecology has consistently been the largest theme within the biological cluster and was discussed in all decades, the only dip below 10% of papers occurring in the early 1990s. The early 1990s were associated with an emphasis on general ecology. "Species" has consistently been one of the most frequently used words in abstracts. In comparison, the word "diversity" only appeared in abstracts in the 1990s and was largely replaced by "biodiversity" in the 2000s."Ecology" was mentioned more frequently in the 1980s, being replaced by "ecosystem" in the 1990s and "ecological" in the 2000s and 2010s. For the first 25 years, the remarkably diverse "flora" was a much larger theme than "fauna and fungi", but in recent years, this trend has reversed. It is interesting to note that mountain fynbos was emphasised more in the 1980s abstracts, whereas subsequently, there has been greater emphasis on lowland vegetation types such as renosterveld, strandveld and Cape Flats sand fynbos. There is a long history of research into soil, invertebrates, microbes and fungi, which continues to bring exciting new insights into the functioning of local systems. Work on hydrology was more predominant in the 1980s than in recent years—probably because more of these papers are now presented at specialist meetings. Biogeography, evolution and paleoecology were discussed in the 1980s and have re-emerged in the 2010s in response to a growing research group in this field based at NMU. Papers addressing sustainable agriculture and harvesting have always been present in the Forum programme, and although they sit within the biologically orientated cluster, they are closely linked with many of the human/management themes. In the early years, this theme focused primarily on the ecological impacts of wildflower harvesting, but in recent years it has expanded to embrace business and biodiversity initiatives, including the rooibos and honeybush industries.

The increased dominance of the "conservation management / community interaction" cluster reflects the response of the Fynbos Forum community to the changing political climate as well as the increasing participation of managers. Indeed, the words conservation and management only began to be used frequently in abstracts in the 1990s. In the late 1990s and early 2000s, a significant number of papers and workshops addressed policy and legislation—supporting the revision of legislation, which was associated with the transition to democracy. Community interaction only became prevalent in papers after 1995 and included reports on Natural Resource Management programmes and later, the CAPE projects, which emphasised engagement with landowners and communities, as well as the benefits of ecosystem services. Economics has always been discussed, but there was a particularly strong focus on this area of work between 1995 and 2000. This reflected local uptake of international trends in ecological economics and the desire to demonstrate the economic worth of ecosystem services within the context of the new democracy. Since 1995, "conservation management" has consistently been discussed in over 20% of the papers in the

programme and is the largest theme when measured over all decades. "Urban conservation" has also become more prevalent since 1995. Sustainability issues and climate change have emerged more strongly in recent years, but it should be recognised that they have been topics of discussion since the early days. There was an emphasis on data management and modelling in the early 1990s that was associated with the production of data catalogues; later papers within this theme dealt more with systematic conservation planning and its implications for implementation.

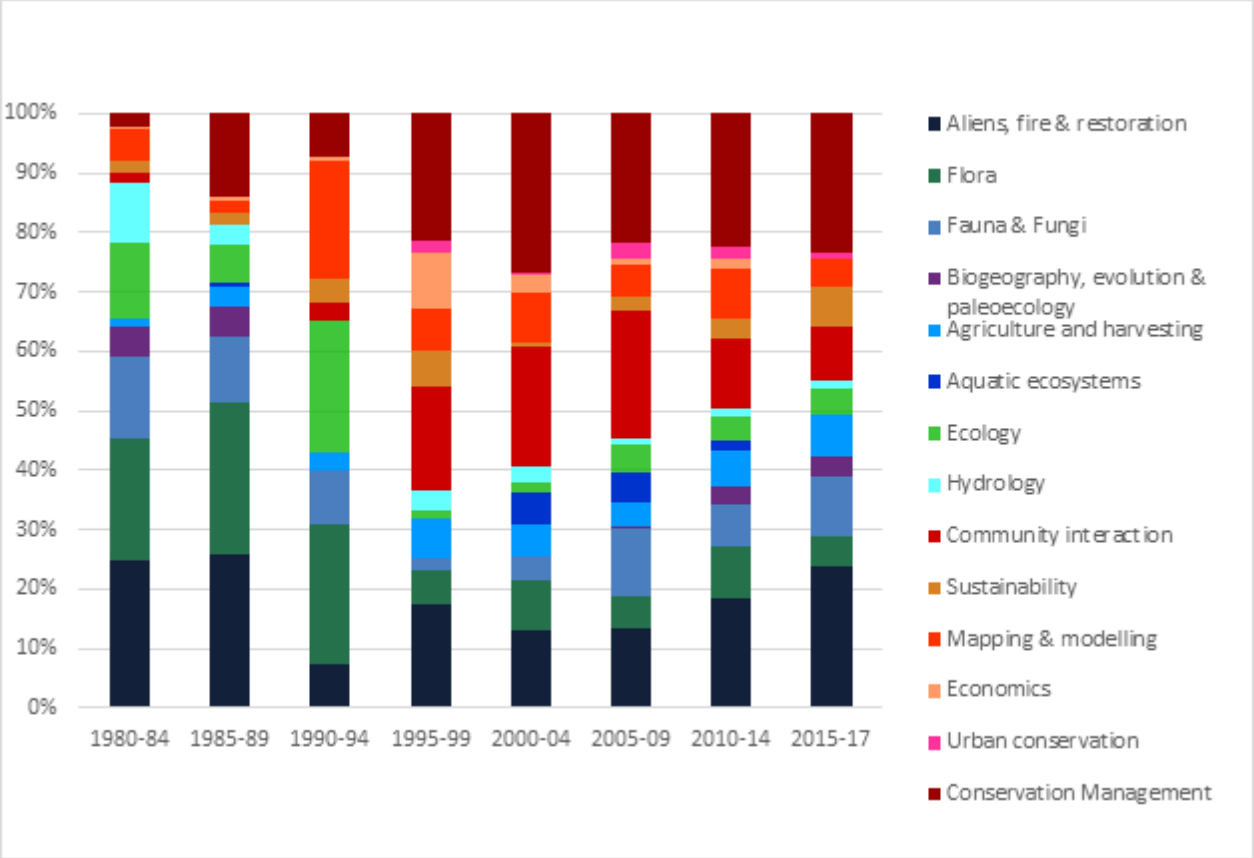


Figure 6.10: Chart showing changes in the themes discussed at the Fynbos Forum in five year intervals.

6.2.2 Who leads and integrates the different themes?

Although many themes are discussed at each Fynbos Forum, an analysis of the 2010 programme undertaken by Jasper Slingsby indicated that if one removed three key people who acted as bridges, the 19 sessions of the conference were essentially made up of seven separate meetings. Karen Esler was found to be linked to 15 of the sessions that year.[166]

Nicky Allsopp

Richard Cowling at Fynbos Forum 2012 field trip.

An analysis was undertaken to identify those people who have played a particularly important role as links between the themes over the four decades. Richard Cowling was found to have presented papers pertinent to 13 of the 14 themes used for the analysis. He was followed closely by Karen Esler, another important integrator, who was involved with papers addressing 12 of the themes. Other members who had presented papers addressing over seven themes included Tony Rebelo, Richard Knight, Christo Marais, Pat Holmes, Dave Richardson, Julia Wood, Connie Krug, Jeremy Midgley, Barrie Low, Nicky Allsopp, Eugene Moll, Penny Mustart, David Le Maitre, Charlie Boucher, Cliff Dorse, George Davis, Dalton Gibbs and Guy Midgley. As can be seen from tables 6.1 and 6.2, many of these authors were also leaders within a particular theme.

Karen Esler

Karen Esler was an important integrator across the decades.

6.3 SUMMARY

The analysis reveals the vital role played by a committed core in forming and sustaining the vibrant Fynbos Network over four decades. The visionary, cooperative scientific Fynbos Biome Project of the early years stimulated ground-breaking ecological research and discussion. This evolved into the Fynbos Forum meetings, which increasingly embraced management issues, drawing in communities and stakeholders from diverse backgrounds. Moving parallel with this was a steady and positive transformation of participants towards a more representative mix of gender and race.

Over the decades, the Fynbos champions have not only had the tenacity to stay the course and provide us with institutional memory, but they have also run ahead, forging new ideas and prompting ground-breaking collaborative initiatives such as "Working for Water" and "CAPE." They have mentored and encouraged new participants in the field. The value of having highly connected individuals involved in the Forum is revealed by the analysis: these champions have stimulated interdisciplinary research and, in many cases, they have built bridges between disparate research topics, resulting in novel interactions and creative conservation solutions.

Tessa Oliver

Working on Fire undertaking a prescribed ecological burn.

CHAPTER 7: MAKING AN IMPACT

The thread through all this was a common passion for learning, sharing, acting! (Brian Huntley)[i]

Over the last 40 years, first the Fynbos Biome Project and then the Fynbos Forum have had a positive impact on conservation as practiced locally, nationally and even internationally. The transformative power of a network that draws together diverse people with a common purpose has been evident throughout. As the funding that supported the Fynbos Biome project ended, the true value of the network was evidenced by its continuation through the Fynbos Forum, without a permanent staff or budget. The Forum provided a vehicle for collaboration between individuals and organisations; its contribution is difficult to measure because it was largely intangible, often adding value to activities that were already under way. In addition to the intellectual input, practical management solutions and career support it provided, the good will and camaraderie of the Fynbos Forum also played important roles in motivating and encouraging those involved in conservation and in facilitating cooperation. The earlier chapters of this book have provided details of the

i. Brian Huntley: Manager of the National Programme for Ecosystem Research that funded the Fynbos Biome Project, later CEO of National Botanical Institute, overseeing its transition to the South African National Biodiversity Institute.

activities supported in each decade by the Fynbos Biome Project and the Fynbos Forum, while this chapter provides an overview of the cumulative impacts of this sustained collaboration.

> *South Africans are unusually passionate about their environment and unusually optimistic about the extent to which they can bring about change—and that is infectious. It was infectious [in the early days] and it is infectious now. Someone who is an old goat, like me, can get up and get passionate about what I am doing: I know that it fires up younger people who are keen to take on new issues. The key ingredient is passion. Then, that begs the question as to why people are so passionate about what they do and so keen to get things done; and I think the answer is that we live in an extraordinary place and I think that scientists are prepared to get engaged. They don't sit in an ivory tower and they are asking questions that are relevant. South Africans face so many issues in their real lives that they are not afraid. They don't shy away from problems … by embracing change you do a huge amount of learning, and we have had no option but to embrace change. This place changes radically all the time—nothing shocks us. We get up, dust ourselves down, and start up again. Well, I love seeing the young people stand up with so much confidence and talk about credible things and to hear about what they are doing on the Cape Peninsula etc. and to see who the red hot ones are coming up. I find it hugely uplifting. It is a way that I can keep up with what is going on in the community because I live in a very remote place and so it is important for me. (Richard Cowling)*[ii]

7.1 MAINTAINING A DIVERSE REGIONAL NETWORK

> *The Fynbos Forum is a big, democratic open-source learning network. (Lesley Richardson)*[iii]

The academic literature increasingly recognises the value of bringing diverse people together to learn from each other, particularly where the network extends across disciplines and across the management-science-policy interface.[167] This recognition is supported by a growing body of research that aims to increase the efficacy of social learning through learning networks and communities of practice.[168,169,170] However, long before the current theoretical frameworks were developed, the Cooperative Scientific Programmes of the CSIR promoted networking across a wide range of disciplines, institutions and stakeholders through a number of ecosystem-based projects, including the Fynbos Biome Project.

ii. Richard Cowling: First holder of the Leslie Hill Chair in Plant Conservation. Moved in 2000 to NMU where he is a Distinguished Professor. He is an internationally recognized academic with over 380 publications and awards from the National Academy of Sciences, the Society for Conservation Biology and the SA Association of Botanists. He is active in conservation, has served on 66 conservation committees, taken part in 22 civic organisations and played an important role in the initiation of both WfW and CAPE.

iii. Lesley Richardson, Executive Director of Flower Valley. Since 2010, coordinator of the Agulhas Biodiversity Initiative and deputy chair of the CAPE Implementation Committee. Former co-ordinator of Environmental Education at WWF-SA.

Box 7.1: The Fynbos Forum as a learning network supporting the development of communities of practice

Communities of practice are groups of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly.[171]

Effective learning networks and communities of practice both bring together groups and individuals with real needs that require active problem solving. They operate by creating opportunities to interact, share information, co-produce knowledge and deepen practice. These objectives are achieved through an engagement that builds a sense of belonging and common purpose.

Cummings and van Zee[172] describe communities of practice and learning networks as parts of a continuum of social learning that ranges from the informal, characterised by communities of practice, to the more institutionalised learning network, which often include a management unit. In registering as an NPC, the Fynbos Forum is beginning to move towards the latter, but it continues to act as an umbrella or incubator, providing support to several interlinked communities of practice. Communities of practice are informal and self-selecting. Individuals participate because they personally identify with the objective of the community,[173] want to improve their performance through collective action, develop new understandings and increase their impact in influencing policy. Critical elements for effective communities of practice include: inspirational leaders, a critical mass of active members, management support and resources, a clear focus, an emphasis on problem solving, mechanisms to transfer knowledge, trust and passion.[174]

Wenger[175] suggests that facilitating interaction between communities of practice is a particularly productive mechanism for supporting knowledge generation. Allee identifies the benefits of successful communities of practice as including improved access to information, knowledge mapping, enhanced formal learning, support for progression from novice to expert, improved satisfaction, a sense of belonging and better decision making.[176] Current social theory highlights the fact that it is difficult to create communities of practice artificially, but also confirms that they should be nurtured. The egalitarian, interdisciplinary multi-organisational format of the Fynbos Forum, together with the trust and relationships built up through regular meetings, provides an ideal context for communities of practice to emerge organically.[177]

Within the context of the Fynbos Forum, the activities of its communities of practice are often conducted through sessions or workshops. Some of these communities of practice become less active once their particular task is complete. Others continue to use the Fynbos Forum as their primary vehicle to facilitate meetings, while a third group moves on to create more formal, independent structures. Important and overlapping communities of practice that currently convene at the Fynbos Forum meeting include those engaged in the rehabilitation of lowland fragments and in biodiversity conservation in urban areas. Important communities of practice that have used the Fynbos Forum in the past include those that developed the *Guidelines for Biodiversity Assessment* and the book, *Fynbos Ecosystem Management*. Two communities of practice, which are focussed on conservation planning and biodiversity stewardship, initially met at the Fynbos Forum but have now split off to create their own specialist national meetings—the Biodiversity Planning Forum and the National Biodiversity Stewardship Technical Working Group.

> *From a hierarchy perspective, the relatively flat structure and advantage of working with a group of people with decades-long Fynbos Forum-based relationships make for a welcoming space that allows for a multitude of ideas and breaking through silos. Having said that, having some of the finest South African research and conservation brains in one room ensures that the implementation and content of the science we care about is not left behind. (Rupert Koopman)*[iv]

Encouraging multi and interdisciplinary participation and communication

The Fynbos Biome Project included a diversity of scientific disciplines and promoted interdisciplinary research. With the transition to the Fynbos Forum in 1990, there was a conscious effort to make the meetings more relevant to managers and to those involved in governance. In so doing, the Fynbos Forum helped to span the science-policy-management divide. Kas Hamman[v], former head of CapeNature, describes how the Fynbos Forum enlarged managers' understanding of the contribution that research could make to the functioning of a conservation agency. He says this understanding had helped motivate for the continuation of a research arm in the Western Cape conservation agency, CapeNature, at a time when there was a danger that conservation agencies would become focused solely on management. The Forum played a crucial role in assisting academic institutions to identify relevant and applicable research possibilities.

The Fynbos Forum is committed to promoting cross-sectoral communication. Although the majority of members come from the environmental sector, a breadth of perspective has been achieved by the inclusion of those involved in agriculture, education, industry, tourism and planning. Government agencies, universities and NGOs are well represented, and participation of individual landowners, community members, consultants and resource users is encouraged, with no one group dominating. Coming from these diverse backgrounds, Forum participants spend time, face-to-face, building personal relationships and developing an understanding of areas of common concern, and this forms the basis for later collaboration. As the range of disciplines has widened, new topics have emerged, such as ethnobotany and climate change. Not only does the broad membership base deepen the level of insight but it also provides a substantive mandate for action. As Richard Cowling comments:

> *There is nowhere [else] that meets regularly and that covers a broad spectrum of issues and that deals with pure science, through to the very applied stuff. [At the Fynbos Forum] they discuss a variety of topics and you get managers and scientists; it even attracts a fair smattering of lay people—the citizen scientists.*[vi]

iv. Rupert Koopman, current Fynbos Forum chair and scientist at CapeNature.

v. Kas Hamman, former CEO of CapeNature, pers comm.

vi. Richard Cowling: First holder of the Leslie Hill Chair in Plant Conservation. Moved in 2000 to NMU where he is a Distinguished Professor. He is an internationally recognized academic with over 380 publications and awards from the National Academy of Sciences, the Society for Conservation Biology and the SA Association of Botanists. He is active in conservation, has served on 66 conservation committees, taken part in 22 civic organisations and played an important role in the initiation of both WfW and CAPE.

Amanda Younge-Hayes,[vii] a private consultant, expresses it:

> *The Forum provides rich opportunities to stay informed about new knowledge, approaches and initiatives in the biome, to network with other Forum members, and to contribute information and analysis arising from one's own work to Forum discussions and debates.*

Maryke Middelmann,[viii] a landowner and leader in the wildflower export industry emphasises:

> *Fynbos Forum has taught us the importance of keeping fynbos pristine because of the services fynbos provides. We have also learnt that alien invasive plants are extremely detrimental to natural veld. We have, because of this knowledge, managed our farm on conservation principles and have passed on the knowledge we have gained to farmers we have worked with during our dried flower export business.*

Pat Holmes,[ix] previously a consultant and currently a scientist with the City of Cape Town explains:

> *The Fynbos Forum community inspired my earlier work, both in the private consultancy field and in applied ecological research, which I continued while consulting. Fynbos Forum colleagues were always approachable and generous in providing useful feedback. Later, as a City employee, the biodiversity planning and ecological management fields become more of a focus for me and I enjoyed sharing lessons learnt with Fynbos Forum colleagues.*

Research on social learning indicates that successful multidisciplinary projects are characterised by the involvement of champions who act as bridges or brokers between research, management and policy development.[178] Researchers with strong collaborative skills who function within management agencies are found to be particularly effective bridges. With this in mind, it is noteworthy that many Fynbos Forum chairs have been dynamic ecologists based in management organisations, NGOs or parastatals. All the chairs were natural networkers, and had strong links with researchers and universities.[179] Due to their strong communication skills combined with their passion for fynbos conservation, these leaders helped to close the gap between research, policy and management. Indeed, a personal passion for closing the "knowing-doing" gap characterises the champions of the Fynbos Forum.

It has been suggested that one of the reasons the Fynbos Forum functions so well as a learning network and that so many communities of practice have developed within it, is that it provides a supportive environment for boundary workers. Being an effective boundary worker requires "enough legitimacy to be listened to and enough distance to bring something really new." This is often not a comfortable place and, as a result, boundary workers often do not fully belong anywhere and their value is frequently overlooked. They are often regarded as mavericks, producing material that no one else yet wants. The positive, collaborative, interdisciplinary nature of the Fynbos Forum provides important encouragement for these knowledge brokers who, for the rest of the year, may well be operating in less supportive environments.[180]

vii. Amanda Younge-Hayes: private consultant and coordinator of the development of the CAPE Action Plan.
viii. Maryke Middelmann: former SAPPEX Chair (15 years), and chair of the International Protea Association (8 years).
ix. Pat Homes: Biophysical Specialist, City of Cape Town.

Building relationships and morale

The annual Fynbos Forum meetings help to maintain relationships, communication and collaboration, even when people move between organisations. As Kerry Purnell[x] puts it,

> *"[Due to the Fynbos Forum], we knew who was who in the zoo, and even if people changed positions one could still stay in contact."*

Looking back on her 26 years of involvement in the Forum, Julia Wood[xi] comments on the huge and varied collection of mentors and connections provided through the Forum and how they have sustained her through her career. She says,

> *Conservation in the fynbos is about partnerships and being able to draw on colleagues. Over the many years, the Fynbos Forum became my family and it was always a place to turn to when the going got tough.*

The opportunity to meet with people with similar interests and yet different skills is of particular value for those working in outlying areas as it not only provides fresh insights but the sense of belonging to a community with an inspirational common purpose also generates morale. This sense of community includes those working outside of the main institutions: independent consultants and landowners are able to make valuable contributions through the Fynbos Forum—often volunteering their expertise or resources to support a cause they believe in.

> *Its most important impact is networking. People were sited far away—even in the same organisations, distances between reserves were significant. It was important to see each other, have a skop and share information. (Paul Britton)*[xii]

Dean Impson

CapeNature staff at the 2008 Interfaces meeting in Oudtshoorn.

Members of large institutions have indicated that communication within their organisation is strengthened by participation in the Fynbos Forum. When a large group from an organisation attends, it enables the individuals who work in different divisions and regions to communicate in a relaxed environment. Spending time together at the Forum, away from the office environment and in a flat non-hierarchical space, helps break down barriers and contributes to better working relationships. The emphasis on field trips and after-hours socialising provides effective informal team building both

x. Kerry Purnell: Wilderness Foundation manager and former programme manager of Protected Areas Expansion and Stewardship in CapeNature. Pers comm.

xi. Julia Wood: former chair, longest serving committee member and currently the manager of the Biodiversity Management Branch of the City of Cape Town.

xii. Paul Britton was SANParks' strategic planner at the time of the establishment of the Table Mountain National Park before becoming a consultant specialising in protected area performance assessment.

within and between organisations. Initial ideas for theses have even, on occasion, been discussed on the dance floor—talk about accessible and flexible supervisors! Back in the office, these relationships continue and assist in day-to-day work and challenges. People feel part of a bigger network that can support, mentor and assist with issues as they arise.

One aspect of the Fynbos Forum that has greatly facilitated communication is its comprehensive email address list of those involved in fynbos-related research and management. This enables participants to remain in contact throughout the year, and it is used to publicise information about the annual meeting and to circulate other relevant information. A Facebook site has recently been established and the possibility of a web-based discussion group is being explored. This is discussed further in the Way Forward chapter (Chapter 8).

> *The Fynbos Forum has provided me with an opportunity to build and strengthen my network of conservation colleagues. This has allowed me to grow as a fynbos conservationist and make an impact on ensuring that our beloved fynbos is protected and appreciated. (Ismail Ebrahim)*[xiii]

Linking with other networks - locally and internationally

The Fynbos Biome Project consciously fostered global links and significant contributions were made to various scientific fields at an international level. As described in Chapter 2, international networks were actively maintained by partnerships between individual researchers as well as through participation in international initiatives.

Eugene Moll

Ray Specht, a professor from Queensland, in the field with an honours student in the 1980s

Throughout the decades, champions have used the Fynbos Network to link the international community with work in the region, either through joint projects or at joint conferences. Key players in the early years included Brian Huntley, Roy Siegfried and Fred Kruger, while in the later years Richard Cowling, Nicky Allsopp, Karen Esler and Jasper Slingsby have played particularly important roles (see Chapters 2 to 5).

Since its establishment in 2002, the fynbos node of the South African Environmental Observation Network (SAEON), led by Nicky Allsopp, has provided important support for international participation in the Fynbos Forum, bringing many of its collaborators to the Forum as keynote speakers. In addition, SAEON invited other South African scientists to identify collaborators for sponsorship.

xiii. Ismail Ebrahim: CREW CFR Node Manager, SANBI.

Funded international visitors who participated in the Fynbos Forum include Mark Simmons, Marcel Aizen, Kate Hardwick, Jonathan Silvertown, Nathalie Philippon and Anna Jacobsen.

These visits by international leaders have exposed Fynbos Forum members to exciting advances while giving them the opportunity to share their own insights with a wider audience. Visitors such as Professor Curtis Marean[xiv] have remarked on the exceptionally positive spirit prevailing at the Forum:

> *I was very impressed by the fact that a focus on a particular region and biome led to a highly multi-disciplinary event. In science we try all sorts of complex ways to stimulate multi-disciplinary science, and often fail. Yet this simple regional event naturally brings a diverse set of scientists all focused on a single goal—a comprehensive understanding of the fynbos.*

The Fynbos Forum has been proactive in promoting interaction with other South African forums and programmes such as the Arid Zone Forum. It regularly functions as a platform to encourage broad interaction on priority issues, and has launched, supported and reviewed a number of important conservation initiatives. The model established by the Fynbos Forum of holding a meeting over several days in a remote area to encourage networking between diverse stakeholders has informed the development of other specialist forums, such as the Biodiversity Planning Forum (a national forum run by SANBI).

Fynbos Forum archives

Fynbos Forum field trip 2016

xiv. Curtis W. Marean: Foundation Professor and associate director, Institute of Human Origins, School of Human Evolution and Social Change, Arizona State University, Tempe; Honorary Professor, African Centre for Coastal Palaeoscience, Nelson Mandela University.

7.2 BUILDING A SOUND KNOWLEDGE BASE

Encouraging collaborative research on priority issues

Until the 1970s, knowledge of the fynbos ecosystems was scattered and inaccessible. Even the term *fynbos* was not widely used. The standard description of the Cape vegetation at that time came from Acocks' monograph, *Veld Types of South Africa,* in which the European term *macchia* was used to describe the fynbos. It was the Fynbos Biome Project that popularised the term fynbos. The interchange of ideas and the collaboration facilitated by the Fynbos Biome Project resulted in a period of exceptional innovation and productivity. This led to tremendous advances in the understanding of fynbos ecosystems, the services they support and the local and international significance of the region's remarkable diversity.

Tony Marshall,[xv] who has attended the Fynbos Forum over 20 times, indicates that:

> *The FF has always been the ideal forum for getting to know the people behind all the articles and papers that informed not only my management of various Nature Reserves but also the interest that I have in this region. In order to manage anything effectively you need to have a reasonable knowledge, at least, of the components and mechanisms that make up and influence whatever it is that you manage. The Cape Floral Kingdom is however not one dimensional or static so there is always something new or being revised as insights and knowledge of this environment grows. Every year there were new ideas and findings which I always found exciting and that is why I attend so regularly (although I wouldn't discount the disco/party nights as a reason).*

Or, as Kas Hamman expresses it:

> *The Fynbos Forum definitely provided valuable exposure of conservation staff to the academic community and applicable research….The evolution of information on fire was fascinating…. For managers of protected areas the new thinking that came in from Richard Cowling, William Bond and Brian van Wilgen brought really fresh and innovative ideas.* [xvi]

Scientists from a wide range of disciplines at regional universities were incentivised to work together around agreed priorities and to cooperate with organisations involved in management. The extensive long-term research undertaken by the South African Forestry Research Institute (SAFRI) under Fred Kruger provided an invaluable foundation. This multidisciplinary collaborative effort resulted in a remarkable advance in understanding that put South Africa at the cutting edge of Mediterranean ecology internationally. This was reflected in the production of a great many reports, books, peer-reviewed papers and significant contributions to international initiatives (see section 2.6).[181] The enormous expansion of knowledge facilitated by the Fynbos Biome Project was encapsulated in the book *The Ecology of Fynbos: Nutrients, Fire and Diversity*.[182]

xv. Tony Marshall: Project Manager, CapeNature and director of The Fynbos Forum NPC.
xvi. Kas Hamman: Former CEO of CapeNature.

On a number of occasions over the past four decades, in response to calls from members, the Fynbos Forum developed research strategies for the region.[183,184] The Forum's broad membership, particularly its inclusion of managers and land users with their extensive local knowledge, has enabled it to identify critical knowledge gaps constraining effective conservation management. This collective and transparent prioritisation of research needs informed the allocation of funding from sources such as CAPE and TMF. In addition, the Forum, like the Fynbos Biome Project before it, used its networks to gather the available data on the region in order to improve the quality of data available for research.[185,186]

The Fynbos Forum continued to provide a space to discuss applied, problem-orientated research needs as well as blue-sky ideas. Often the most innovative work was undertaken at the interface of two different disciplines—with the whole being greater than the sum of its individual parts.

> *As a researcher who simultaneously navigates disciplinary depths in ecology and works across disciplines, I have increasingly focused on applied issues and ways to bridge the "knowing-doing gap" for sustainable actions. The Fynbos Forum learning network is a perfect local outlet for such activities, and provides a vehicle to compliment my academic leadership roles, which include mentorship (post-graduate training in applied environmental management questions) and strategic roles. The Fynbos Forum has provided both me and my students with access to stakeholders beyond academia, it has stimulated ideas and has opened up opportunities to make a real difference for this special part of the world. (Karen Esler)*[xvii]

> *I attend the Fynbos Forum to keep my thoughts and research grounded. The Forum forces you to look at the bigger picture and think about the relevance and utility of your work. It is a great opportunity to meet and interact with up-and-coming individuals while keeping in touch with the usual suspects. It also provides a great barometer of the current issues. (Jasper Slingsby)*[xviii]

> *The Fynbos Forum has been and still is an invaluable platform for learning and knowledge-sharing, networking, establishing partnerships and initiating innovative projects amongst multiple stakeholders for the conservation of the CFR. A key passion of mine is bringing scientists and managers together, to ensure that science informs management in a practical and sensible way. I love the spirit or vibe of the Fynbos Forum, where I feel very much relaxed and at home. (AnneLise Schutte-Vlok)*[xix]

> *I have always looked at the annual Fynbos Forum gatherings as possibly the most cost-effective way of exposing those responsible for the management of this Region to the vast array of knowledge and expertise that is available. We could send as many as ten nature conservators to*

xvii. Karen Esler: Executive Head of the Department of Conservation Ecology and Entomology at Stellenbosch University. She currently forms one of the most important nodes in the Fynbos Network.

xviii. Jasper Slingsby: Scientist at the Fynbos node of SAEON and rapidly becoming one of the most important new bridges in the network.

xix. AnneLise Schutte-Vlok: a passionate botanist working within CapeNature who has attended 20 meetings. Regional Ecologist, CapeNature.

a Fynbos Forum for the same price as one person going to an international conference. With the advantage that 90% of the presentations would be relevant. (Guy Palmer)[xx]

Ross Turner

Erica propinqua

Broadening the scope

In the early years, the emphasis of research was very much on developing an understanding of the functioning of biological systems. The objectives of conservation programmes and institutions have broadened in recent years to include social upliftment as part of their central mandate. Within this context, research is supporting the recognition of healthy ecosystems as the source of critically important services. Good science is needed to determine the parameters of sustainable management and to motivate desirable behaviour. In addition to maintaining a solid body of work on the functioning of fynbos ecosystems, the Fynbos Forum now also hosts presentations and workshops that assess the application of social science expertise to support the implementation of conservation. For example, community-based research supports the rooibos and honeybush industries and draws on the experience of wild herb collectors. These initiatives are supported by a substantial body of work on the facilitation of effective community participation and conservation education. Peoples' perceptions of what is valuable, and how this influences their willingness to support conservation, is another important theme. The recognition of indigenous knowledge systems is also vital if the approach is to be truly transdisciplinary. Over the years, the Fynbos Forum has focused on transferring new insights into guidelines for improved implementation, always with the ultimate objective of strengthening the conservation of the region (section 5.5.3).

Ross Turner

Female Orange-breasted Sunbird (*Anthobaphes violacea*) feeding on *Erica brachialis*.

xx. Guy Palmer: ex Scientific Manager Biodiversity CapeNature who led the process of getting the Cape Floral Kingdom accredited as a Protected Areas World Heritage site. He has attended 16 Fynbos Forum Meetings.

7.3 DEVELOPING CAPACITY

Over the years, the Fynbos Network has made significant contributions to regional capacity development. The supportive environment of the Fynbos Biome Project was a good incubator for talent, and from it emerged a large number of passionate and capable young people who were looking for opportunities to advance their careers as they interacted with peers and were exposed to local and international leaders. The Fynbos Forum has continued to provide intellectual, practical and sometimes financial support to students. Kerry Purnell[xxi], who has been a leader in developing Biodiversity Stewardship both within CapeNature and in the country as a whole indicates that:

> *Attending the Forum is particularly useful for students at a University or Technicon—where the curriculum does not necessarily keep up-to-date. The Fynbos Forum exposes people to new ideas and gives them some idea of what they can do when they move into the real world. For example, biodiversity stewardship was not mentioned in the training, but it was happening in the real world and many people ended up working in that sector.*

The Fynbos Forum reduces the registration costs for students to encourage them to attend. As described in Chapter 4, the Table Mountain Fund has provided extensive support to students and young professionals, which included giving Innovation Scholarships to 13 exceptional students. Presentation at the Fynbos Forum is obligatory for recipients of these bursaries, and many of these bright young minds go on to contribute to regional leadership.

> *The Fynbos Forum opened a whole new world to me, as it brings together fynbos experts as well as ordinary people that just find this biome interesting. The Forum has created a community of people with the same goals and I'm glad to be part of it. The Innovation scholarship came at a time when funding was uncertain, and it really helped to sustain my research project while I was waiting for other funding opportunities. (Dewidine van der Colff)*[xxii]

> *The Fynbos Forum is a fantastic community that encourages students and aspiring researchers, providing a platform to present our work and get constructive and yet critical feedback in a friendly, casual environment. The annual Fynbos Forum has, as a result, always been a much anticipated and favourite event amongst students. The Fynbos Forum Innovation Scholarship was critical in funding my master's research on ecosystem services of the Kromme Wetlands, and had I not had access to this funding and support, I would undoubtedly not be where I am today: still continuing my research in the Fynbos Biome. (Alanna Rebelo)*[xxiii]

> *The financial contribution that the Fynbos Forum Innovation Scholarship made to my PhD project was key to the sustainability of the project, and it meant a lot to me personally. With the scholarship also came sponsored attendance at the annual Fynbos Forum meeting…. I found these*

xxi. Kerry Purnell: Wilderness Foundation manager and former programme manager of Protected Areas Expansion and Stewardship in CapeNature.

xxii. Dewidine van der Colff: Innovation Scholarship recipient—currently working as a Red List scientist in the Threatened Species Programme at SANBI.

xxiii. Alanna Rebelo: Innovation Scholarship recipient and currently a postdoctoral student at Stellenbosch University.

meetings exceptionally enriching and I was very grateful for the networking I was able to do with others working in the conservation arena in the Cape Floristic Region. (Stephen Cousins)[xxiv]

Further to the financial assistance provided by the fund, inclusion into the vibrant, accomplished and inspiring Fynbos Forum community was extremely beneficial. I loved participating in the forum over both years of my study and now try to join in whenever possible. (Penelope Waller)[xxv]

Public speaking, networking skills and a public profile

Julia Wood

Lewine Walters (with Zwai Peter in background), Fynbos Forum 2004

Inclusivity is a fundamental principle for the Forum, and all participants are given the opportunity to deliver a paper or poster. This ensures that, whether experienced or not, participants' areas of interest become known. Early meetings were sometimes a baptism of fire for young presenters who had to field difficult questions from abrasive professors. In recent years, feedback has generally been more encouraging and it always offers a useful perspective from experts, whether in the same field or from other disciplines. It is a valuable environment for students to test out their ideas with the best brains in the conservation sector, whether their peers from other universities or regional leaders. The open platform provides invaluable exposure not only to public speaking but also for practice in designing effective posters. For this reason, local universities and colleges actively encourage their students to present at the Fynbos Forum. Prizes for the best student speakers provide important incentives, and the careers of recipients are followed with interest by the conservation community.

The Fynbos Forum definitely provided valuable exposure of conservation staff to the academic community and applicable research. It also became a critical but constructive platform for students to expose their abilities to potential employers in the sector. Conservation authorities could have a look at how innovative they were. (Kas Hamman)[xxvi]

xxiv. Steven Cousins: former Innovation Scholarship holder— was completing his PhD at SU on the Restoration of the Swartland.

xxv. Penelope Waller former Innovation Scholarship holder—currently a consultant at C4 a consultancy which supports adaptation to climate change.

xxvi. Kas Hamman: Former CEO of CapeNature

New entrants to the Forum also learn to network. Many start by presenting at poster sessions, which actively supports interaction. The informal discussions over lunch and tea also provide opportunities for exploring new ideas, and mentors often play a supportive role in introducing young people to experts working in the same field. Participation in the Fynbos Forum ensures inclusion on attendance and mailing lists, facilitating new connections and the maintenance of contacts between meetings. This is of particular value for people who are new to the field or to the region.[xxvii]

Fynbos Forum archives

Students of the University of the Western Cape: Nicole Bauer Schmidt, Lyle Lucas and Alexis Osborne discuss their work on the 'Silent Invader at the UWC Nature Reserve' with local botanist from St Francis Bay, Caryl Logie, at the Fynbos Forum 2012.

As a leader and protected area specialist in the Cape Floristic region, the Fynbos Forum inspired me to strive for excellence in the workplace and in the field of biodiversity and conservation sustainability. For this I was inspired to pursue further studies in Sustainable Development after completing my BTech Degree in Nature Conservation. The platform offered by the Forum made it possible for me to believe that I could study further in the field of Botany, which led to my graduation in MSc Botany from Stellenbosch University. I met many conservation leaders and planners as well as scientists from around the world, and from this many opportunities opened up for me, which I would not have experienced had it not been for the Fynbos Forum. (Bongani Mnisi)[xxviii]

The Fynbos Forum was a conservation hub where I could engage with fellow conservation professionals who, over the years, also became friends. It was an important networking opportunity as well as a place to learn about and participate in the work taking place in the Fynbos Biome. The Fynbos Forum helped me grow into the conservation professional I have become today and I am grateful for the opportunities it opened up for me. (Natasha Wilson)[xxix]

xxvii. Dr Ian Macdonald and Dr David McDonald both emphasised how useful it was in terms of building a local network when they first moved into the region.

xxviii. Bongani Mnisi: Head Nature Conservation, North Region at the City of Cape Town and member of the Fynbos Forum Committee.

xxix. Natasha Wilson: Advisor, Biodiversity Stewardship (Biodiversity and Land Use Project) within WWF-SA.

Facilitating career development through leadership opportunities

The Fynbos Biome Project introduced a flat organisational structure that gave several young scientists significant leadership responsibilities. They rose to the challenge and many went on to become leaders in their careers—often attaining management positions while still relatively young. In this way, the Fynbos Biome Project acted as an invaluable springboard for career development. The capacity developed during this halcyon period formed the foundation on which later research and implementation were built. Much of this cohort of young people went on to become regional and even international leaders, producing both top ranking scientists and leaders of management organisations.

Fynbos forum archives

Nicola van Wilgen with two other participants

> *The fact that I was involved [in leadership of the Fynbos Biome Project], and that it was successful, made it easier for people to promote me…. It made it easier for them to put me in leadership positions and then it made it easier for me in those leadership positions…. From that time on, the scope of my mandate expanded so I was put in charge of managing [Conservation Forestry Research], which was fynbos, forests, hydrology, grasslands. I think the experience in the Fynbos Biome Project taught me how to oversee that scope—I would bring in ecology and integrate how one deals with emergent properties and promotes the management interface and the science policy interface. (Fred Kruger)*[xxx]

Subsequent chairs and committee members have echoed Fred's sentiments: involvement in the leadership of the Fynbos Forum provided high profile exposure in the conservation community and offered insights into important issues facing the sector. They noted that their involvement with the Fynbos Forum had significantly developed them, in both their personal and career capacities, as well as providing a whole network of mentors, supporters and colleagues.

> *I was a junior ecologist when I was appointed as Forum chair in 1990…. because of my position as chair I was exposed to people taking decisions at a much higher level than I was at that time. (Christo Marais)*[xxxi]

xxx. Fred Kruger: former chair of the Fynbos Biome Project, and head of research within Forestry who went on to lead the Division of Forestek in the CSIR.

xxxi. Christo Marais: Chief Director Natural Resources Management Programmes, Department of Environmental Affairs. First chair of the Fynbos Forum.

> *Being the Chair of the Fynbos Forum was an amazing opportunity for me. It taught me about the immense value of bringing researchers, managers and policy practitioners into a room and the magic that emerges when different perspectives are aired and shared. (Kristal Maze)*[xxxii]

Strengthening and Transforming the Sector through Effective Recruitment and Mentorship

Organisations are currently targeting top female and black students, identifying potential through student presentations and then making them offers to engage in internship programmes. The Fynbos Forum's ability to circulate advertisements for employment, contracts and tenders through its membership lists strengthens the pool of applicants for each post, further contributing to regional capacity.

In the past, the Fynbos Forum has also provided a platform for wider mentorship initiatives such as the Conservation and Environmental Management Forum—an online communication network for members of the conservation community—as well as mentorship programmes within the regional conservation agency. In these ways, *inter alia*, the Fynbos Forum helps to support the appointment of capable people to both permanent positions and contract work. The strong local network helps to build career paths as individuals can move more easily between institutions as they are made aware of opportunities, while potential employers have often already encountered applicants through the Forum.

> *We used the Fynbos Forum network to help with external mentorship to build capacity within CapeNature and it facilitated people in following their individual career paths. (Chris Martens)*[xxxiii]

> *The pressure for transformation in South Africa offered more opportunities…. Many of these (women) have gone on through their workplaces and the Fynbos Forum to change the nature of how scientists engage with one another and the outside world, less competition and more collaboration. This isn't restricted to women (and some women can be silverbacks too), many men also seem to have rejected the old scientist persona. I do hope that people in the current fynbos community can reflect on how lucky we are to have been freed from this earlier tyranny so they can continue to strive for a more equitable work environment, and better conservation outcomes. (Nicky Allsopp)*[xxxiv]

> *Being part of the Fynbos Forum moulded my life. As a young person in the field of conservation, I was exposed to the entire array of people working within the Fynbos Biome, from seasoned academics to dynamic and up and coming managers. Participating in the annual forum created friendships and networking opportunities, which led to various employment opportunities, and also made every single job I've had in the biome easier, as I already had all the contacts and prospective partnerships I needed to implement projects. (Tessa Oliver)*[xxxv]

xxxii. Kristal Maze: former chair, Chief Director: Biodiversity Planning and Policy Advice, SANBI.
xxxiii. Chris Martens: Initiated biodiversity stewardship in CapeNature and later headed up its Capacity-Building programme.
xxxiv. Nicky Allsopp: SAEON Fynbos Node Manager.
xxxv. Tessa Oliver: Project coordinator GEF FynbosFire Project and Project Manager of special projects at Landworks.

7.4 SUPPORTING IMPLEMENTATION

The Fynbos Forum plays a powerful role in the region by sustaining the communication and partnerships that underpin implementation. As a result of its broad membership and independence, prioritisation of an intervention by the Fynbos Forum is viewed as a meaningful endorsement that helps to mobilise support. This support may take the form of facilitating the establishment of formal partnerships between institutions, developing proposals to secure funding for priority actions, contributing to the development of supportive policy frameworks, strengthening recruitment within the sector, mobilizing the potential power of citizen science, encouraging the development of new approaches to sustainable resource use or improving the use of biodiversity data to advance sustainable planning. The networking platform provided by the Fynbos Forum is particularly important during the initiation of organisations and projects, and it often functions as an incubator while they develop their own networks. Because the Fynbos Forum does not have its own permanent staff, individual members drive the implementation of its resolutions. They use the endorsement of the Fynbos Forum to motivate their respective organisations, to support the proposed actions, to generate funding proposals, to establish partnerships, to develop deeper understanding or simply to draw the encouragement to persevere.

Working for Water archives

Fynbos Forum workshops serve to promote the integration of knowledge across different disciplines and to help bridge the gap between science, policy and implementation. Initially, workshops focused on description, but they soon moved on to the exploration of functional processes. In recent years, Fynbos Forum workshops have broadened their scope still further to support the development of policy frameworks and to inform implementation while maintaining links with current research. The proceedings of a workshop are frequently made available as a summary of the current state of knowledge, which is then used as a springboard for future collaborative research or action. Undoubtedly, one of the most influential Fynbos Forum workshops was held in 1993 at the Oude Libertas Theatre and entitled "Managing Fynbos Catchments for Water". This workshop provided the initial impetus that led to the Working for Water Programme and the CAPE partnership (detailed in Chapter 3, section 3.7 and Chapter 4, box 4.1, respectively). Another highly influential workshop was held in 2003 and resulted in the production of the guidelines for EIA assessment (see Chapter 4, section 4.5.3). More recent workshops on rehabilitation have led to practical support for the rehabilitation of endangered lowland vegetation (see Chapter 5, box 5.3).

Translating networks into partnerships for implementation

Tessa Oliver

Prescribed burn supported by a Working on Fire team.

The trust and common purpose established through decades of collaboration facilitated by the Fynbos Forum underpins regional conservation efforts. The partnership of the Table Mountain Fund and the Fynbos Forum has been particularly productive, with the Table Mountain Fund providing support for several projects prioritised by the Forum (box 5.1 Chapter 5).

The strong regional community of practice supported by the Fynbos Forum has been particularly helpful when rapid deployment has been required across different organisations. For example, Fynbos Forum networks supported the initial rollout of the both the Working for Water programme and CAPE (Chapters 3 and 4). The Fynbos Forum has continued to support both of these programmes, hosting reviews whose independent nature has supported ongoing improvement (see box 7.2).

> *The Fynbos Forum was catalytic to the conceptualisation and realisation of the CAPE programme, enabling the birth of a vibrant science–implementation–policy interface that is still relevant decades later. (Mandy Barnett*)[xxxvi]

Box 7.2: Impact of the Natural Resource Management Programme

The Fynbos Forum supported the initiation of the Working for Water programme in 1995 by integrating and publicising the multidisciplinary research and innovative management models that provided the motivation for the initial grant. Its effective regional network also supported the programme's early implementation (see Chapter 3, section 3.7).

Initially, the Working for Water programme focused on controlling invasive alien plants. It then expanded its scope to address the closely linked challenges of wildfire management and wetland rehabilitation. In 2003, the Working on Fire programme was initiated, which developed highly specialised capacity to manage wildfires. In 2004, a separate programme was established to focus on the rehabilitation of wetlands. These new programmes used the same

xxxvi. Mandy Barnett: former CAPE Coordinator and Director of the CAPE and SKEP bioregional programmes and currently director of Climate Change Adaptation within SANBI.

approach—creating jobs by undertaking labour-intensive environmental management projects. This expansion continued, and additional "Working for" programmes were established to address the rehabilitation of land, forests and the coast. By 2011, there were 10 "Working for" programmes addressing a wide range of environmental management issues. They were known collectively as the Natural Resource Management (NRM) programmes) and were moved to the Environmental Programmes branch of the Department of Environmental Affairs.

In October 2015, the Working for Water programme celebrated 20 years of operation. Between 2013 and 2016/17, the programme's average annual budget was R1.27 billion. Its budget has continued to grow, and by 2016/2017 the annual budget was a remarkable R1.89 billion. Working for Water is still the largest of the "Working for" programmes, accounting for 78% of the total expenditure of the NRM Expanded Public Works Programmes. The total expenditure of the NRM programmes in their first 22 years of operation exceeded R16.4 billion. Approximately 15% of this budget has been spent on the fynbos region.[xxxvii]

By 2018, these resources had been used to provide nearly 271 000 person years of employment nationally.[xxxviii] It is almost impossible to measure the positive impact on the 50 000 people who are given this opportunity to work and receive training every year. The benefits for biodiversity and water yield, although significant, have not been measured systematically as the focus of the monitoring has been on inputs rather than outputs.[187] The programme has, however, worked on over 3.1 million hectares of invasive aliens, done rehabilitation work in over 1300 wetlands and supported the management of 15 000 fires. It has thus made a significant contribution to environmental management in the country as a whole. It is regarded as one of the leading international examples of sustainable environmental management and has put South Africa at the forefront of work on ecosystem services.

Despite this massive investment, there is still a growing threat from invasive alien plants. Concerns have been raised in the Fynbos Forum and in other assemblies that, as a result of emphasising measurable job creation, there has been insufficient focus on the efficacy of follow-up treatments, planning and monitoring or on other social impacts.[188] Nevertheless, despite these challenges, there is no doubt that the programme is making an invaluable contribution. Moving into the future, it needs strengthened management guidelines and improved governance structures. The development of improved best practice guidelines will require better monitoring of vegetation regeneration, catchment functioning, social impacts and institutional functioning. It is encouraging that the NRM continues to invest in a substantial research and biocontrol programme. In the early 2000s, the budget for applied research and planning was R2 million and a further R18 million was spent on biocontrol. In 2018, the budget for research and planning is R35 million, which includes support for graduate students and the development of planning tools. The budget for biocontrol research and implementation is R51 million.

The Fynbos Forum acts as a platform to discuss challenges in the NRM programmes. (Christo Marais) [xxxix]

At each Forum, there are papers that address issues relevant to the suite of NRM programmes. Workshops frequently focus on invasive species, wetland and fire management. Guy Preston, the Deputy Director General of the Environmental Programmes in the DEA, who attended various meetings over the years, emphasises the importance of ecosystem services and the role of politicians. NRM managers are therefore encouraged to attend the Fynbos Forum to participate in these discussions. For example in 2011, a session on the management of alien plant control gave rise to both a paper and a semi-popular article reviewing the effectiveness of Working for Water.[189,190] In 2012,

xxxvii. Christo Marais, pers comm, email dated 24 April 2018.

xxxviii. Christo Marais, pers comm, email dated 24 April 2018.

xxxix. Christo Marais: Chief Director Natural Resources Management Programmes, Department of Environmental Affairs. First chair of the Fynbos Forum.

there was a special workshop on the role of biocontrol. In 2016, a session focused on integrating the management of fire and alien vegetation. These sessions enable Working for Water and Working on Fire to receive integrated input from the broader scientific and management community. The Fynbos Forum's institutional independence allows it to debate areas of concern vigorously, thus strengthening long-term management.

We are not making history we are living it. You might as well get on the bus and enjoy the ride. (Christo Marais)[xl]

Bridging the gap between research, policy and management

> *We moved into ecosystem services not because we thought it would be trendy but because it was what we had to do if we wanted to save the fynbos, and we were way ahead of the pack. (Richard Cowling)* [xli]

> *The Fynbos Forum has been a critical place for the Sustainable Livelihoods Foundation to introduce and showcase our cross-cutting work to the conservation sector, and for encouraging multidisciplinary engagement in promoting a sustainable economy. I have seen first-hand how the Forum dialogue emerges from beyond the event itself to shape not only the conversation, but decision making and policy. (Leif Petersen)* [xlii]

The interaction of managers, scientists, policy makers and community members at the Fynbos Forum directly supports the development and application of practical knowledge. Managers involved in the Fynbos Forum indicate that the discussions hosted by the Forum provide them with invaluable exposure to the latest scientific advances. They are able to use these insights to develop practical adaptations that are then tested in the field as alternative approaches. The outcomes of these investigations are then presented back to Fynbos Forum meetings, where ongoing feedback supports adaptive management and knowledge development. From their perspective, researchers indicate that the relationships with landowners and managers established at the Fynbos Forum help to keep their research relevant.

The Fynbos Forum has played an important role in shaping policy and institutional frameworks, and was particularly active in this arena as South Africa transitioned from apartheid to its new democracy. This was achieved through both formal submissions and informal discussions[xliii] The expertise in the Forum

xl. Christo Marais: Chief Director Natural Resources Management Programmes, Department of Environmental Affairs. First chair of the Fynbos Forum.

xli. Richard Cowling: First holder of the Leslie Hill Chair in Plant Conservation. Moved in 2000 to NMU where he is a Distinguished Professor. He is an internationally recognized academic with over 380 publications and awards from the National Academy of Sciences, the Society for Conservation Biology and the SA Association of Botanists. He is active in conservation, has served on 66 conservation committees, taken part in 22 civic organisations and played an important role in the initiation of both WfW and CAPE.

xlii. Leif Petersen: Founding Director; Sustainable Livelihoods Foundation.

xliii. Inputs were provided around the new *Biodiversity Act,* the *Protected Areas Act,* the development of incentives and legal frameworks for conservation on private and communal land, and the regulation of invasive alien plants and problem animals.

strengthened the technical discussions, while the practical experience of managers directed the development of incentives that promoted uptake of innovative ideas.

> *Several workshops were held at the Fynbos Forum that played an important role in shaping policy development—it was a very useful platform. (Mark Botha)* [xliv]

> *The glue between conservation planning and stewardship was the Forum: [it] could also reach across different conservation agencies to market new concepts…. [We could] identify areas where we needed more input … the place where questions are asked, and we could go back to our management to implement things differently. (Chris Martens)*[xlv]

The Fynbos Forum provides a safe space for discussion around the challenges of research and implementation. It has supported the development of pioneering solutions in terms of the management of fire and invasive aliens, conservation planning and the promotion of biodiversity stewardship. Its openness, flat non-hierarchical structure, legacy of trust, and wide spread of representation across different organisations and disciplines means that challenges and new ideas are often brought to the Forum. Most other meetings have a far tighter control on presenters and participation and often have a strong emphasis on generating positive publicity, with the result that they are less suitable for debating difficult or emerging topics. Consequently, the Fynbos Forum is often the place of choice for those wanting to promote the uptake of an innovative approach—particularly when it is somewhat controversial. Many innovations are developed through networking and informal discussions, and they often result from the application of a new understanding to a practical problem.

For example, the potent combination of need, capacity and the freedom to explore new approaches resulted in the Cape Floristic Region being at the forefront of innovation in terms of Biodiversity Stewardship. When the first conservation stewardship programmes on private land were tested in the Western Cape, presentations at the Fynbos Forum built support for the approach in the wider conservation community and helped develop a supportive community of practice. This was a radical departure from conventional conservation models, which until then, had assumed that conservation areas would be on state-owned land. This exposure built support for Biodiversity Stewardship, both within the lead implementing organisations such as CapeNature and across the broader environmental network. The concept of Biodiversity Stewardship revolutionised the conservation sector in South Africa and has been a major contributor in increasing the conservation estate, especially in the threatened lowlands. Later, specialist meetings developed that are now hosted by implementing agents, but the early open meetings facilitated by the Fynbos Forum were crucial in getting these new concepts off the ground.

xliv. Mark Botha, former head of the Living Lands Unit at WWF-SA and currently a consultant and director and Conservation Strategy Tactics and Insight.

xlv. Chris Martens: Initiated biodiversity stewardship in CapeNature and later headed up its Capacity-Building programme.

Caroline Gelderblom

CapeNature staff in safety gear preparing a drip can on the Rondegat River to dispense rotenone. The implementation was monitored by observers from a range of stakeholders.

A controversial new approach that was regularly discussed at the Fynbos Forum was the use of the piscicide rotenone[xlvi] to control the invasive alien fish that posed a huge threat to the endemic fish of the region. During the project (2003–2013), regular presentations and progress reports by Dean Impson helped participants to understand the motivation for the proposed approach. Dean then provided feedback once it had been successfully implemented (box 5.2). Without this exposure, there could well have been organised resistance from the conservation community in addition to that experienced from sections of the freshwater fishing fraternity. Likewise, the Fynbos Forum has been used to develop an understanding of new approaches to the control of problem animals—establishing support for the monitoring of leopards and the use of deterrents such as Anatolian sheep dogs and protective collars[xlvii] rather than the traditional approaches of shooting or trapping.

> *In terms of work on damage-causing animals: we could use the Forum as a platform to share and test new approaches that were not yet widely accepted…. In later years of the Forum, it was very valuable that you had landowners and agriculture there as well. Some of these new ideas were not always kindly received initially. It was a good platform for feedback, which also contributed to policy development.*[xlviii] *(Kas Hamman)*[xlix]

Frequently, new ideas are put forward by leaders in a particular field, but sometimes the novel concepts are raised by younger members, or by those outside of the conventional leadership structures. Such individuals are often able to think "out of the box" in finding innovative solutions, but in a formal organisation, they are seldom given a platform. However, at the Fynbos Forum meetings, the leaders are readily accessible, and they often discuss ideas with emerging young scientists and managers, possibly then taking the ideas forward to working groups. In this way, the informal Forum capacitates the younger generation through encouraging the relaxing of boundaries and enabling controversial new ideas to be tested, frequently resulting in significant innovation.

xlvi. Rotenone is a broad spectrum insecticide and piscicide that decomposes rapidly when exposed to sunlight.
xlvii. The collars are put on small livestock to prevent the typical throat bite that predators use to kill the prey.
xlviii. The Forum provided input for the development of CapeNature's policy on animals causing damage, which became effective in 2011.
xlix. Kas Hamman: Former CEO of CapeNature.

The Fynbos Forum aims to improve management across the whole biome by translating innovative scientific advance into best practice guidelines that are widely accessible. It provided a venue for early discussions around sustainable flower and rooibos harvesting, integrating both scientific and management information. It also provided an important venue for discussions around rehabilitation.

Box 7.3: Impact of the Fynbos Forum EIA and Management Guideline Books

The Fynbos Forum has supported the production of two best practice guidelines. The *Fynbos Forum Ecosystem Guidelines for Environmental Assessment*[191] was a ground-breaking product that leveraged the newly available fine-scale information on biodiversity priorities, setting a new standard for best practice in environmental impact assessment (EIA) and having significant regional and national impact. A partnership between the Fynbos Forum and CAPE supported the use of this material in training EIA practitioners and government officials in best practice. Expert instructors presented the legal requirements for protecting biodiversity and explained how to use the Guidelines effectively, together with the GIS-based biodiversity data that SANBI offered on its Biodiversity Geographical Information System (BGIS) platform. Training in the use of this information to inform EIA is still provided at some universities. In 2006, CapeNature made consultation of the *Fynbos Forum Ecosystem Guidelines* a formal requirement for all evaluations of development proposals that had the potential to impact biodiversity adversely. Furthermore in that year, questions referencing the guidelines were added to the official basic assessment questionnaire set by the Department of Environmental Affairs and Development Planning (DEA&DP). In addition to their influence on EIA in the Western Cape, the Guidelines informed the development of similar guidelines for other vegetation types in South Africa and strengthened the development of the National Environmental Management Act (NEMA) regulations. An update of the *Fynbos Forum Ecosystem Guidelines* in 2016[192] has ensured that they are kept aligned with recent legislation and take advantage of the latest GIS-based tools. Overall, the revision provides an accessible introduction to the field for new entrants, while it enables experienced practitioners to update their knowledge. The revised EIA guidelines are also integrated with the guidelines on *Fynbos Ecology and Management*[193] published by the Fynbos Forum in 2014 (section 5.5.3). The objective of that book was to provide a practical and accessible toolkit to support sustainable management of fynbos. The book has been well received—nearly 60% of the 3000 initial print had been sold by 2018.

Much has been achieved by the Fynbos Forum and its predecessor the Fynbos Biome Project through the passion and shared expertise of its members. In recent years, the focus of the Fynbos Forum has been increasingly on sustaining a vibrant learning network that promotes communication, collaboration and capacity development in the region. It has regularly supported the development of guidelines that promote best practice. The diversity of its membership has enabled it to identify and endorse priority actions in order to generate support for important work. This progress has been incremental, and each leader and every committee has made their own contribution. The Forum warrants ongoing nurturing—and work still to be done if the fynbos is to be secured for future generations to enjoy.

You can achieve anything if you have a network and a bit of space for innovation (Julia Wood)[l]

l. Julia Wood: former chair, longest serving committee member and currently the manager of the Biodiversity Management Branch of the City of Cape Town.

Ross Turner

Erica recurvata, critically endangered

Tessa Oliver

Disa barbata, critically endangered

Kay Montgomery

Fynbos Forum 2017 – participants who started attending in the 2010s

CHAPTER 8: THE WAY FORWARD

8.1 SUSTAINING A LEARNING NETWORK

In 2018, the Fynbos Biome Project and its successor, the Fynbos Forum, will have been meeting for forty years. This 40th anniversary is providing an important opportunity to reflect, not only on the achievements of the past, but also on the challenges and opportunities facing the Forum going forward. A questionnaire in 2016 and a workshop in 2017 drew together the hopes and insights of participants regarding the way forward. These are summarised in this chapter.

In order to shape an optimal future, it is important to understand, maintain and expand on the achievements of the past. In the 1980s, the Fynbos Biome Project built on an existing history of concerted scientific endeavour.[194] The establishment of the Fynbos Forum in 1990 was the outcome of a desire to maintain the regional network that had developed around the Fynbos Biome Project.

Over the next three decades, the Forum moved steadily towards becoming a transdisciplinary learning network.[195] This was deepened as the community itself began to transform—gradually becoming more representative, reflecting and supporting the changes happening in the country as a whole and in the conservation sector specifically. As South Africa transitioned into a democracy, the emphasis in the

conservation sector was increasingly on work that supported community involvement; presentations began to reflect indigenous knowledge and social priorities. Recent work has recognised the tremendous value of ecosystem services as well as the complex processes that sustain them.

The Fynbos Network has strengthened and broadened the links between science, policy and ecosystem management by encouraging collaboration between individuals and organisations. Although the Fynbos Forum has few resources, its ability to facilitate communication between diverse stakeholders has continued to mobilise support for conservation of the Fynbos Biome. The objective of this chapter is to share some of this learning and to identify shared priorities as the Forum moves forward into a new era as an independent Non-Profit Company.


Monique Adams
Chacma Baboon (*Papio ursinus*)

One of the most important lessons arising from the history of the Fynbos Forum is that determined intervention can change the shape of the future: during the times when the Fynbos Forum was at its smallest, it supported the development of the largest proposals. The history of the Forum has illustrated the power of non-partisan collective action in providing a mandate for advocacy that is not associated with any particular agency. Where members have collectively identified issues requiring intervention, funding was frequently secured and multidisciplinary teams established, often involving participants from a wide range of organisations. Examples of this would include the proposals that led to the establishment of the Working for Water and CAPE programmes. Through these programmes, funding was released that brought profound changes in the Fynbos Biome and beyond. These successes were achieved because there were many champions willing to work together on important issues, sustained by their common passion for the conservation of the region.

8.2 THE FYNBOS FORUM OF THE FUTURE

A shared history of developing collaborative solutions represents invaluable social capital that can be drawn on to support future growth. The overall goal of the Fynbos Forum in 2018 is to ensure that the positive impacts are sustained and enhanced in the future. The combination of substantive capacity within a context of exceptional biodiversity creates the potential for developing new approaches of local, national and international significance. Innovations are more likely to be developed through collaboration at the interface of different fields.[196] It is here that the diversity of the Fynbos Forum is an invaluable asset: there are few other conferences that draw participants from such a wide variety of disciplines, including scientists, managers and those involved in policy and planning. These participants represent both the public and private sectors and also non-government organisations. Many have worked together over the years, often in smaller communities of practice that formed through interaction facilitated by the Fynbos Forum.

Five elements are required to support and sustain a learning network: building of community through community interaction, sharing information, co-producing knowledge, deepening practice and a common purpose.[197] The challenge as an organisation moves towards greater formality is to retain pertinence, flexibility and vitality and to ensure that those attending continue to experience added value. The ethos of sharing and collaboration must be maintained so that the values and objectives of the overall network are kept clear and inspirational.

The Fynbos Forum's role as a regional learning network has come under pressure in recent years, and in the future, a strong focus on enhancing attendance at the annual Forum meetings, particularly from people in management, will be crucial if its functionality is to be maintained and its long-term impact sustained. As it evolves into a more formal learning network, particular attention should be given to:

- Building community and regional networking:
  - Maintaining diversity,
  - Creating opportunities for interaction,
  - Complementing the work of other forums and meetings;

- Enhancing knowledge co-production:
  - Promoting best practice,
  - Prioritising future research and management actions,

- Growing a new generation of young champions;

- Organisational strengthening through:
  - Improving communications and raising the profile,
  - Fundraising and resource mobilisation,
  - Revising the vision and mission of the Fynbos Forum to incorporate the current context.

8.2.1 Building the community and supporting regional networking

Maintaining diversity

The core of the Forum's value derives from the opportunities it creates for regional networking and for the co-production of knowledge that can result when a diverse group of people are gathered together with a common purpose. These functions are dependent on the maintenance of an effective science/policy/management/user interface, which is made possible through the Forum's multidisciplinary and transdisciplinary character. These qualities can only be sustained if a critical mass of leaders, champions, mentors and bridges are involved. Going forward, this will necessitate the active inclusion of people from a wide range of backgrounds, skills sets and organisations, including those groups and sectors that are currently less well-represented at the Forum. The recent decline in the involvement of managers is of particular concern and needs to be redressed by proactive high-level engagement with relevant agencies to identify how their needs could be better met and to ensure that those authorising attendance at the Forum understand the potential benefits. It is also important to ensure that the diversity of institutions represented

is maintained—for example, although Stellenbosch University is well represented, the recent decline in participation by other universities is a cause for concern.

In terms of sectors and disciplines that have not been involved with the Forum in the past, increased engagement may be achieved through effective marketing of the benefits of the Forum, and by ensuring that the programme is relevant to these sectors. Inviting keynote speakers from different sectors who have new insights and important contributions to offer may motivate those sectors to become involved. Invitations could include people who are not normally directly associated with biodiversity conservation, particularly private individuals and industry champions from key sectors. The Forum can identify areas of common concern and the potential for collaboration among players from sectors that do not normally communicate with one another. Recent research on networks indicates that purposely encouraging the participation of observers provides new insights and opens up potential for later involvement in collaborative projects.[198] Integration within meetings should also continue to be actively promoted through plenary sessions.

Creating opportunities for interaction

The development of individual relationships across sectors is a particularly important component of communities of practice.[199] Recent research highlights the importance of developing trust, respect and meaningful conversation as prerequisites for collaboration.[200] Participants in the 2016 survey and in individual interviews highlighted the huge value of the relationships and the sense of belonging created by the interactions occurring outside of the formal programme, so substantial tea and lunch breaks are important. This emphasises the importance of a meeting that takes place over several days and is residential. It is important not to lose sight of the importance of fun, relevance and the opportunity to explore a region and meet new people. The inclusion of field trips in the main programme creates a substantial break from the formal presentations. These field trips are well run, usually by the local Fynbos Forum representative, and are split up to cater for different interests. This creates smaller groups and provides a useful opportunity to network and learn from each other. Field trips also provide a potentially invaluable opportunity for a particular project to receive substantial inputs.

Beyond the annual Forum meetings, networking opportunities could also be provided through focus group meetings and through collaboration on projects identified by the collective. Both are helpful in bringing diverse people together in a meaningful way. In the past, this approach was used to generate some of the most important products initiated by the Forum. Innovative platforms now available on social media have great potential to strengthen networking and collaboration. The changing emphasis and reduced resources of the CAPE partnership render the Fynbos Forum's contribution to the maintenance of a regional conservation network even more important—the relationships and initiatives forged at the Forum represent the professional equivalent of knowing and working together with one's neighbours on important local issues.

Complementing the work of other forums and meetings

The establishment of several new international, national and biome-wide biodiversity conservation forums in recent years has led to a need for the Fynbos Forum to review how it operates in order to ensure that its contribution to fynbos conservation is maintained. There are a number of opportunities for the annual Forum meetings to complement the efforts of these other forums,[i] for instance, by focussing on its information-sharing and consultative role within the context of fynbos conservation, which might include:

- Receiving reports and presentations from other forums and meetings, both local and international, and enabling this information to be shared with a wider audience;
- Hosting dedicated sessions and workshops focused on the work of the CAPE Partnership, TMF and other funding agencies to review their projects and programmes and identify opportunities to get involved;
- Providing a platform for implementing agents such as CapeNature, the Eastern Cape Parks and Tourism Authority, municipalities and NGOs to showcase their work;
- Holding consultative workshop sessions during the annual Forum meeting to raise issues, formulate responses and where appropriate, endorse decisions and initiatives;
- Establishing *ad hoc* working groups to co-ordinate and prepare inputs to these forums from the perspective of fynbos science and management, and thereby to promote fynbos conservation.

If links such as these with other forums are strengthened, the role of the Fynbos Forum as a regional knowledge network promoting the collaborative development of transdisciplinary knowledge will be enhanced. It is also important that the Fynbos Forum maintains its international links and it is therefore encouraging that in 2020 the Fynbos Forum and MEDECOS will once again be organising a joint meeting to be hosted in South Africa.

i. Important meetings with particular relevance to the Fynbos Forum include: Regional meetings such as the Western Cape Protected Area Expansion and Stewardship Working Group, the Annual CapeNature Biodiversity review as well as its Quarterly Ecological meetings, the Arid Zone Forum and the KZN Symposium of Contemporary Conservation Practice. National meetings include the Wetlands Indaba, the NRM Management, Research and Planning meeting (MAREP), the National Biodiversity Planning Forum, the Biodiversity Information Forum and the South African Association of Botanists. International meetings include International Conference on Mediterranean Ecosystems (MEDECOS), the Southern African Wildlife Management Association, the Annual Research Symposium on the Management of Biological Invasions in Southern Africa, the International Conference on Ecology and Management of Alien Plant Species, and meetings held by the Global Environment Facility (GEF) and other funding organisations supporting international conventions.

8.2.2 Enhancing knowledge production

Enhancing the content and relevance of the programme at annual Forum meetings and creating opportunities for more in-depth interaction will be an essential aspect of sustaining the long-term impact of the Fynbos Forum and its role as a learning network.

Strengthening content

The Forum will need to maintain its traditional focus on high quality content, ensuring that relevant themes are addressed and that the high standard of input, which includes adequate variety, is maintained. The overall theme of a meeting is decided by the committee. This is complemented by inviting keynote speakers to lead plenary presentations. Additional thematic sessions are identified, and supportive speakers are then invited to fill important gaps. Currently, the balance of the content of the annual Forum meeting is derived from the papers and posters submitted.

The Forum has always had a strong emphasis on information-sharing, providing a platform for the presentation of recent research findings and management experiences. Recently, a few very successful symposium-style plenary sessions have been held followed by a series of linked presentations on a specific topic. These have been led by high-profile speakers from both the research and management spheres and have included relevant international researchers. Such sessions can explore a rich body of knowledge through presenting a range of aspects of a developing field while also allowing meaningful time for discussion. In future, the topics of these special sessions could be drawn from an actively maintained Fynbos Forum Research Strategy or identified through consultations with researchers and managers and could become key attractions. Specific stakeholder organisations and conservation initiatives could be asked to lead sessions on topical management and implementation issues that affect a range of players.

It will be essential to maintain a balance between the themed and open sessions to ensure that opportunities to present new research, innovative ideas and experiences are not lost. Session papers could be selected by topic experts who would be responsible for ensuring that there was good coverage of the subject matter, and that both experienced and novice presenters were given a chance to participate. Interaction in sessions needs to be encouraged by allowing more time for questions and discussion.

Stephen Cousins

Protea mucronifolia, critically endangered

Workshopping allows deeper debate and discussion and facilitates active participation. It is particularly valuable in bringing diverse groups together for the co-production of knowledge and it is most effective when actively facilitated in a setting that promotes dialogue. Workshops are usually suggested and driven by members, and thus the number and topics vary at each Forum. They also vary in terms of size, format and timing, with some being part of the main programme, while others are organised before or after it.

Promoting best practice

Effective communities of practice and learning networks discuss current issues and improve access to information, which enhances formal training and facilitates progress from a novice to an expert.[201] An important mechanism for encouraging best practice is through the production of management guidelines (see earlier chapters) that integrate the latest scientific understanding with current management experience and expertise.[202] In addition to building capacity for individual scientists and managers, this is a very efficient mechanism for bridging the gap between science, policy and practice. It has been suggested that conservation scientists need to consciously bridge this gap by actively framing technical knowledge into policy-relevant formats and developing material that bridges the gap between science and policy.[203] The objective here is to support better conservation outcomes through improved understanding and decision making. The development of the Fynbos Forum's EIA guidelines, which are used to integrate conservation priorities into the provincial planning process and the *Fynbos Ecology and Management* handbook are both good examples of this integration. The Forum should continue to identify important gaps in the available and accessible knowledge and address them by developing additional guidelines to strengthen the region's conservation efforts. The dissemination and further refinement of such knowledge could form a regular part of future Fynbos Forum meetings.

Prioritising Future Research and Management Actions

An important function that the Fynbos Forum has fulfilled in the past has been the maintenance of a fynbos conservation research strategy that identifies priorities for research in the biome. The ongoing renewal of this strategy provides a concrete interface between science, policy and management in practice. It has the potential, if undertaken in an interactive way, to guide young scientists into areas that need exploration, and to encourage managers, policy makers and land users to clearly articulate and define areas of practice that are particularly challenging. The collaborative process through which the strategy has been developed and revised in the past has been almost as valuable as the end-product, ensuring that the knowledge and concerns of all involved in fynbos conservation are captured and communicated.

This research strategy should function as a transparent mechanism for prioritising the allocation of research funding within the region, and it is clearly an area in which the Fynbos Forum could be providing leadership. A baseline was established in 2005 and renewed in 2007, but its ongoing maintenance has not been sustained. This needs to be redressed through the establishment of a mechanism for regular review, at a minimum interval of every five years.

Identification of priority actions is also critical in generating funding. The Fynbos Forum has played an important role in generating support for fynbos conservation, helping to motivate for the establishment of powerful conservation programmes. The Forum's wide membership gives it a weighty mandate, which

should be used consciously to promote priority conservation actions. The expertise represented by the Fynbos Forum also provides an important resource for the generation of proposals. The Fynbos Forum has demonstrated long-term resilience and relevance, helping to maintain connections and to promote collaboration around innovative approaches in an ever-changing institutional landscape.

Stephen Cousins

Swartland Shale Renosterveld, Porseleinberg, Riebeek Valley

8.2.3 Growing champions

A key role of learning networks is capacity building, particularly among the youth. One objective of the Fynbos Forum is to grow a new generation of young conservation champions by enhancing learning and leadership opportunities. This involves attracting, involving and mentoring young people in their development as conservation researchers and practitioners. Strengthening transformation through the active inclusion of young people from previously disadvantaged backgrounds is an essential aspect of this.

One of the Forum's most important contributions to fynbos conservation is to provide young people with opportunities for networking, mentoring, capacity-building and exposure. The annual Forum meeting exposes young researchers and conservators to "the real issues facing the fynbos"[ii] and offers them exciting

ii. Quoted from survey responses *(Fynbos Forum 2016—online survey).*

opportunities to make a contribution to its conservation. It has had profound influence on the career development of many participants, providing them with experience and exposure. As one participant expressed it, "The Fynbos Forum was an important platform to develop my academic skills and career during my post-graduate studies."[iii] The Forum will need to enhance its efforts to attract young people and to engage their active participation. Making the annual Forum meetings more attractive and accessible will benefit new members from all sectors.

The Forum can support the development of the youth in a number of ways. An important factor constraining young people from attending the annual Fynbos Forum meetings is the cost. It is essential to keep the meetings as affordable as possible and to continue to provide sponsorships to support the attendance of students and others on limited budgets, including retirees who can act as valuable mentors.

The Forum's Innovation Scholarships have supported exceptional students and have been important in building capacity. These should be maintained and expanded. Those receiving sponsorships to attend annual Forum meetings are required to contribute, whether by delivering a paper, presenting a poster, or by helping with logistics. A new capacity-building proposal involving mentoring has been submitted recently to TMF for funding consideration. In addition to academic scholarships, this new application also makes provision for mentorship of young managers.

The Forum needs to make full use of digital communication, networking and information-sharing technologies to reach the network of younger researchers and to keep them informed of scheduled events, benefits and opportunities to participate.

Learning institutions should be encouraged to facilitate attendance by their students, and thereby increase their opportunities for face-to-face encounters and network building. The usual practice with younger presenters at the annual Forum meetings is that they are accompanied, advised and assisted by their supervisors and mentors. This should be actively encouraged. Mentors need to foster the integration of their students into the network, for instance, by introducing them to useful contacts. Mentors who have had a long-term involvement with the Forum are also important in terms of maintaining institutional memory. As the base of mentors is currently narrow, it would be beneficial if senior staff from major training institutions participated in Forum meetings and supported their students' participation and inclusion into the network. Mentorship and networking opportunities outside of annual Forum meetings should be explored, and a bio-sketch database could be useful for students seeking mentors and work.

Effort is needed to make younger Forum participants feel welcome at meetings, and older members are encouraged to be inclusive, particularly at social events, where icebreakers and introductions are helpful. The openness to new approaches that is characteristic of young researchers and practitioners should be actively encouraged as a valuable component of an effective learning network, and their contributions should therefore be actively encouraged.[204] Inexperienced presenters could be given training in presentation skills to ensure that they make the best use of the limited time allocated. If possible, younger participants

iii. Quoted from survey responses *(Fynbos Forum 2016—online survey).*

should present earlier in the programme to give them greater exposure and enhance their opportunities to network. All participants should be encouraged to avoid jargon.

At or before each Forum meeting, consultations could be held with younger participants to identify issues that they feel should be addressed. For example, in 2016 younger participants indicated that in addition to strengthened communication platforms they would find the following helpful:

- Establishing a database of bio-sketches of potential mentors, which could also be used to increase the profile of young professionals.
- Ensuring that all organisations are represented at the Forum and improving the availability of mentors by making sure they are not constantly in side meetings.
- Creating a job hub so that information on opportunities is readily available.
- Providing more opportunities for involvement in the programme as support staff, including helping with workshops, as this would facilitate their integration and exposure.
- Creating activities to break barriers: mix-it meals, "speed dating opportunities" and lots of tea breaks.
- Creating an emerging researchers/professionals team: to hold regular workshops and mixers to throw ideas around.
- Providing a comprehensive introduction at the beginning of each Forum. This is important as at least 50% are first time attendees. Individual presenters could then be encouraged to build on this introduction by focusing on new insights and thereby avoid rehashing basic information about fynbos.

Involvement in the Fynbos Forum played a pivotal role in the development of many who are now leaders in the conservation sector. The open leadership structures promoted the involvement of young and enthusiastic members who were mentored by more experienced people. It is important that the Fynbos Forum should continue to provide opportunities for those with a passion for the region's conservation and thereby support the creation of future champions. From 2016 onwards, in response to the discussions held that year, the meeting decided to include younger representatives on the committee to provide fresh insights and to provide opportunities for growth.

8.2.4 Organisational strengthening

The Forum has always operated as a very lean organisation, sustained by volunteers and with administrative support from the NRF, the Botanical Society (BotSoc) and latterly, Kishugu NPC/Landworks NPC.[iv] Support for specific activities has been provided in the past by the NRF, the CAPE partnership and TMF.

iv. Kishugu was registered as Landworks Non Profit Company in April 2017.

The mission of the Fynbos Forum has been in place since 2000 and it is important that it is revisited to reflect the new institutional and regional context. The recent registration of the Forum as a non-profit company (NPC) offers a range of new opportunities that have the potential to ensure that the Forum's unique contribution to the conservation of the Fynbos Biome is sustained and enhanced, particularly as the CAPE programme winds down. Some of the challenges facing the Forum currently include:

- How to strengthen administration and marketing while retaining the largely informal, voluntary and collegial character of the Forum;
- Whether the annual Forum meeting should remain the main focus of the organisation, or whether more opportunities should be created for focus groups and working groups (formal or ad hoc), either to undertake specific tasks identified at the annual meetings or to sustain a particular aspect of work or a community of practice; and
- How much emphasis and effort should be expended on communication and marketing, and what the focus of these activities should be.

Going forward, the options and the implications of each of these need to be carefully worked through.

Improving communication and profile

According to the findings of a survey into learning networks conducted by USAID, one of the greatest risks to an effective learning network is "the absence of well-planned dissemination and communication strategies."[205] To sustain its role and impact in fynbos conservation, the Forum needs to maintain ongoing communication with its target audience. That audience needs to be kept well-informed about the Forum and its activities, and Forum meetings need to be publicised well in advance. Forum communication should include better information-sharing throughout the year. Suggested activities include:

- Providing an online networking platform for researchers, managers and conservationists to debate and discuss issues of concern and interest in the biome. This would require improved website, email and social media communication;
- Maintaining a searchable database of participants, profiling skills and areas of interest;
- Improving access to papers delivered at Forum meetings;
- Circulating information about jobs, tenders and capacity building opportunities;
- Giving access to opportunities to contribute to, for example, data collection and proposal and policy development processes;
- Publicising relevant research news;
- Identifying relevant issues and facilitating learning exchanges and seminars;
- Developing and disseminating guidelines and lessons learnt.

Much of this could be undertaken in partnership with other organisations such as TMF, SANBI, CapeNature, SANParks, SAEON, the Department of Agriculture and the various landscape initiatives. Active intervention might be necessary to facilitate outreach to the other sectors. To put such processes in place would require an effective communications and marketing strategy, a key aspect of which would be the rebranding of the Forum as a mature learning network that acts as an incubator for a number of communities of practice. Simultaneously, the profile of the Forum and the benefits of participating would need to be promoted.

Members surveyed emphasised the tremendous value of the regular emails circulated by Wendy Paisley in the 2000s: these maintained connectivity and ensured that members were consistently updated with information on meetings, vacancies, contracts and areas where input was required. The decline in this functionality in recent years and the absence of a consistent administrative contact person has been acutely felt. New administrative structures were put in place in 2017 to re-establish a dedicated secretariat. These should restore this important function while also supporting some of the higher level approaches detailed above.

Fundraising and resource mobilisation

Currently, the financial needs of the Forum are modest. The most urgent need is to increase sponsorships, to maintain a research strategy and to enhance both internal and external communication and marketing. At the same time, it is considered important to retain the largely volunteer-driven character of the Forum as this engenders a sense of community and ownership; while their collegial character makes the Forum meetings accessible to a wide range of people. The effort and resources required to manage the Forum effectively should not be under-estimated. The role played by the Forum in relation to conservation in the biome needs to be better publicised, and the specific benefits of involvement in it need to be clearly spelled out.

The range of fundraising options available to the Forum as an NGC is much wider than in the past. Institutional funding and sponsorships can now be solicited from universities and research organisations since the Forum provides a platform for academics and students to showcase their work. Other partner organisations, public entities and government departments could also provide annual grants or subsidies. For example, stakeholders in the biome may be prepared to provide financial support to the Forum for convening non-partisan debates and discussions around policy issues and for co-ordinating non-partisan advocacy. The Forum could consider exploring innovative web-based fundraising tools (e.g. crowdfunding) as well as the more conventional donor funding and sponsorships. Direct fee-based service provision may also be a viable option and would require the Forum to tender for work in competition with other service providers. In 2017, the NRF put out a call for proposals for the establishment of communities of practice to support the National Development Plan—the objective being to form strategic research partnerships to undertake solutions-orientated research that can be translated into policy. The Fynbos Forum's long experience in this sphere position it well to contribute to this process.

As one looks over the past 50 years of involvement in cooperative science, from the first Biological-Geological Expedition to the Prince Edward Islands in 1965/66, through the heady days of the CSP in the 1970s and'80s, to the emergence of the NRF through the 1990s and beyond, one cannot help recalling the comment made by Professor Stanley P. Jackson, then Deputy Vice-Chancellor at Wits, at a meeting in 1989. Prof Jackson was asked by the then President of CSIR, Dr Chris Garbers, what he thought of the CSP. Jackson's reply was concise: "The concept of cooperative science pricked the bubble of arrogance of many academics, unused as they are to working in multi-disciplinary teams." It was this arrogance that was the driver against CSP in the 1990s, and until recently, but was never sufficient to kill the spirit of cooperation that survived in the Fynbos Forum and is now being followed by many countries around the globe and is being re-discovered by the DST. (Brian Huntley)[v]

Stephen Cousins

Babiana melanops, vulnerable (renosterveld special)

v. Brian Huntley: manager of the National Programme for Ecosystem Research that funded the Fynbos Biome Project, later CEO of National Botanical Institute, overseeing its transition to the South African National Biodiversity Institute.

8.3 CONCLUSION

The Fynbos Forum, as a non-partisan learning network, supports the conservation of the fynbos region. It plays a unique role in bringing together participants from science, management, policy and planning to extend the boundaries of knowledge and practice—promoting a culture of collaboration. Its survival on an informal volunteer basis for four decades demonstrates its value to participants. It has functioned as an incubator, supporting the development of individuals, initiatives and communities of practice, and in so doing has made a significant contribution to conservation in the region. Models and capacity developed locally have had a far wider impact.

However, times are changing, and if it is to sustain and increase its relevance within the fynbos conservation community and beyond, the Forum needs to change too. As the CAPE programme heads towards 2020 and its possible closure, the Forum needs to play a stronger role in the biome. It should respond positively to the establishment of complementary communities of practice and learning networks, and take advantage of the new communication technologies, paying special attention to capacity building and mentoring among the youth. To meet the changing needs of participants, the Forum needs to raise its profile. It needs to publicise the benefits of participation and engage in fundraising to ensure that its operations are adequately resourced. Facilitating collaboration between science and management must remain at its core, and be strengthened wherever possible.

However, this all can only take place if the Forum is supported by its champions. According to John Bessant,

> *Progress with learning networks (and communities of practice) is enabled by the actions of champions at various levels who can bring energy, ideas, initial ownership and enthusiasm to bear.... Equally the absence–or the departure–of champions can have an adverse effect.*[206]

The Forum has been fortunate in having a significant number of champions over the years, and these people have been crucial to its success and sustainability. It is encouraging that there is a new generation who are keen to take things forward, and the enthusiasm and commitment of these young champions will be essential to the Forum as it moves into the future. The Fynbos Forum helps to feed the passion of the region's conservationists, and ultimately, this is the foundation on which the conservation of the fynbos is built. In the words of Richard Cowling[vi]:

> *The critical ingredient is passion, and the belief that we can make a difference when all working together—ordinary people, doing extraordinary things.*

vi. Richard Cowling: First holder of the Leslie Hill Chair in Plant Conservation. Moved in 2000 to NMU where he is a Distinguished Professor. He is an internationally recognized academic with over 380 publications and awards from the National Academy of Sciences, the Society for Conservation Biology and the SA Association of Botanists. He is active in conservation, has served on 66 conservation committees, taken part in 22 civic organisations and played an important role in the initiation of both WfW and CAPE.

Cliff & Suretha Dorse

Lachenalia bulbifera, looking towards Cape Point, Table Mountain National Park.

APPENDIX 1: LIST OF ANNUAL MEETINGS

Year	Date	Town	Venue	Theme/Purpose
1979	29 January	Stellenbosch	Dept Nature Conservation	1st Annual Meeting
1980	29 – 30 July	Stellenbosch	Infruitec	
1981	29 June-1 July	Cape Town	Leslie, UCT	
1982	11 June	Cape Town	Leslie, UCT	
1983	28 June	Cape Town	UCT	
1984	26 June	Stellenbosch	Stellenbosch Uni	
1985	29 – 30 July	Stellenbosch	FFTRI	Research for resource management
1986	26 – 27 June	Cape Town	UCT	Disturbance regimes and the dynamics of Fynbos Biome communities
1987	23 – 25 June	George	Saasveld	
1988	27 – 29 July	Montagu	Avalon Hotel	Review of the 10 years of the Fynbos Biome project
1989	18 – 20 July	Clanwilliam		Man and Fynbos
1990	1 – 2 October	Stellenbosch	University of Stellenbosch, Die Ark	Towards the 21st century
1991	11 – 13 August	Bredasdorp	Potberg	
1992	7– 8 September	Cape Town	UCT in collaboration with SCOPE	Biotic Diversity and the function of Mediterranean-type ecosystems
1993	16 – 17 March	Swellendam	Drostdy Museum	Monitoring requirements for Fynbos management
1994	13 – 15 July	Stellenbosch	Bien Donné	MAREP meeting and data catalogue workshop
1995	5 – 6 December	Grabouw	Mispah Youth Centre	
1996	17 – 18 July	Worcester	Die Nekkies	
1997	16 – 18 July	Genadendal	Town Hall	Conservation through education and utilisation
1998	22 – 24 April	Arniston	Die Herberg, Waenhuiskrans	Fynbos Forum 21 years on
1999	22 – 23 September	Albertinia	Rein's Nature Reserve	
2000	7 – 9 June	West Coast	Ganzekraal	Whither fynbos research: questions and answers
2001	1 – 3 August	Calitzdorp	Calitzdorp Spa	A celebration of our successes
2002	14 – 16 August	Rawsonville	Goudini Spa	What is our fynbos worth?
2003	5 – 8 August	Hartenbos	Hartenbos Resort	
2004	10 – 13 August	Langebaan	Club Mykonos	Delivering the goods
2005	1 – 5 August	Port Elizabeth	Pine Lodge	
2006	9 – 11 August	Goudini Spa	Rawsonville	
2007	1 – 3 August	Langebaan	Club Mykonos	How well are we doing? Threatened habitat conservation
2008	3 – 7 August	Oudtshoorn	Burgersentrum	Interfaces, joint meeting with Arid Zone Ecology for linking across biome boundaries
2009	4 – 7 August	Bredasdorp	The Sports Centre	Working together for a living landscape
2010	3 – 6 August	Citrusdal	NG Church Centre	International year of biodiversity
2011	31 May – 3 June	Still Bay	Community Hall	Fynbos and human heritage
2012	17 – 19 July	Cape St Francis	Cape St Francis Resort	East meets West: transcending political, ecological and social boundaries in fynbos
2013	7 – 10 October	Cape Town	Kirstenbosch Botanic Garden	Celebrating fynbos in a Centenary Year
2014	4–8 August	Knysna	Premier Hotel	Forestry's Fynbos
2015	3–6 August	Montagu	NG Church Hall	Biome Boundaries
2016	25–28 July	Port Elizabeth	Pine Lodge	Survivor Fynbos
2017	31 July –3 August	Swellendam	Agricultural Grounds	Donut. Or do naught?
2018	30 July – 3 August	Rawsonville	Goudini Spa	Fynbos on Fleek @40

APPENDIX 2: INSTITUTIONAL CHANGE

Timeline showing institutional change in the conservation sector in the Cape Floristic Region from the 1980s to the 2000s

Key:

Reds/yellows = Academic Institutions

Blue = Statutory Bodies

Green = Government departments

Orange and brown = NGOs

Pink = Private

Grey = Municipal

Solid Bars are organisations, name changes are shown within the bar and important projects are text next to the relevant organisation.

Note: This time line focuses on changes mentioned in the text and is not intended to be comprehensive.

APPENDIX 3: APPROACH TO NETWORK AND THEMATIC ANALYSIS

Thematic Analysis

In this book, we made use of thematic analysis, a form of qualitative content analysis, to analyse the content of papers and posters presented at the Fynbos Forum over the period of 1980 to 2017. The results of these analyses are based on the available presentations (papers and posters), information reported in abstracts, books and programs between 1980 and 2017. The titles and abstracts (where available) were used to perform this analysis.

Content (thematic) analysis is a research method for making replicable and valid inferences from data to their context. The aim is thus to attain a condensed and broad description of the phenomenon, and the outcome of the analysis is concepts or categories describing the phenomenon. Thematic analysis is one of the most common forms of analysis in qualitative research. It emphasises pinpointing, examining, and recording patterns (or themes) within data. Usually the purpose of those concepts or categories is to build up a model, conceptual system, conceptual map or categories.

For the purposes of this book, the latent content of the presentations was coded by reading each article in its entirety and making an overall assessment of its primary emphasis, using an inductive coding approach. Through a process known as abstraction, article level themes were merged into higher order themes that describe larger sets of presentations. Furthermore, the changes in contributions to themes over time were also assessed. Additionally, the top contributors (authors) to each theme and across themes were determined.

The relationships between themes were visualised using a social network analysis (SNA) approach (see appendix on SNA), where the links between themes (nodes) represent common authorship and node size is indicative of the number of presentations attributed to the theme. Node colour was determined using a community detection algorithm in Gephi. Nodes with the same colour, therefore indicates that themes are more related to one another on the basis that they share common authorship.

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Social Network Analysis

In this book we made use of social network analysis to analyse the relationships between collaborators (also referred to as authors) who have had their work presented at the Fynbos Forum over the period of 1980 to 2017. The networks and analyses presented in this book were performed and visualised using Gephi 0.9.2 software and were based on available presentation (papers and posters) information reported in abstracts, books and programs between 1980 and 2017.

The primary focus of social network analysis (SNA) is on the relationships between social entities, and the patterns and implications of those relationships. SNA's focus on relations and structure distinguishes it from other methods of analysis. It can provide information on the structure of relationships and positions of individuals in the network, as well as on the development of these aspects over time.

Within SNA, various levels of analysis can be differentiated, including ego networks and full networks. The analysis of ego networks is concerned primarily with relations associated with a particular social entity (e.g. an author). In this book, we make use of full networks, where all relations between entities are included. Furthermore, networks can be unimodal,

bimodal or multimodal. Unimodal or one-mode networks include only one type of entity (e.g., only authors). Bimodal (two-mode) or multimodal networks include sets of entities (for instance, authors and affiliations, or authors and presentations). The specific type of network studied has implications for the relevance and interpretation of measurements. The most common measures apply to full, unimodal networks. Therefore, in this study we present unimodal networks based on relationships between two sets of entities, namely: 1) authors and presentations, and 2) authors and presentation themes (topics).

The first set of networks presented in this book are collaboration networks. In the instance of this book, they can also be referred to as co-authorship networks. In these networks, the nodes represent authors and the links between them are representative of instances where they have collaborated on a presentation. The node size is representative of the frequency or the number of contributions made by an author, and the link width is representative of the frequency of collaboration between pairs of authors. Authors are considered co-authors if their names are mentioned together on a presentation. In this book, networks are split into discrete time periods (i.e. 1980-1989, 1990-1999, 2000-2009, and 2010-2017), which allows us to observe the changes in the network over time. Furthermore, nodes (authors) are coloured in accord with their primary affiliation during the period when most of their presentations were produced, rather than where they were longest. All affiliation information was based on what was reported in the abstracts, and/or elsewhere in FF program information, for a given year.

In addition to the presentation of networks, several measures were calculated to determine the importance of authors in the network. These measures are aimed at determining the network location, or centrality of a node, namely: degree centrality (the number of adjacent nodes), eigenvector centrality (positive multiple of the sum of adjacent degree centralities), and betweenness centrality (the number of shortest paths between all pairs of nodes that pass-through a given node). Degree centrality is the easiest way of measuring node centrality and is simply the number of other nodes connected to a node. In the case of this book, the degree centrality of an author is equal to the number of collaborators an author has. Eigenvector centrality is based on the idea that a node is more central if it is linked to other nodes that are themselves central (in terms of degree centrality). Therefore, an author with a high eigenvector score has a high proportion of collaborators with high degree centrality scores. Betweenness centrality scores are indicative of the number of number of times a node lies on the shortest path between any two pairs of nodes. In the case of collaboration networks presented in this study, when an author has a high betweenness score it is an indicator of the likelihood that the author plays the role of a broker or gatekeeper, and suggests that they have most frequently controlled information flows in the network.

In addition to the co-authorship network, a unimodal network of the relationships between presentation themes was produced. In this network, nodes are representative of presentation themes and the links between them indicate that there are authors common to themes. The node size is representative of the frequency of the contributions made to a theme and the link width is representative of the number of authors shared between themes. Node colour was determined using a community detection algorithm in Gephi. When nodes have the same colour, it indicates that themes are more closely related to one another on the basis that they share common authorship.

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APPENDIX 4: DETAILS OF NETWORK ANALYSIS

80s SUMMARY								
rank	label	degree centrality	label	no. of documents	label	betweeness centrality	label	eigen centrality
1	mitchell d t	11	rebelo a g	16	moll e	1200.43	moll e	1.00
2	moll e	11	mitchell d t	13	le maitre d	961.50	mitchell d t	0.90
3	cowling r	9	cowling r	13	ashton e r	705.00	sommerville j	0.71
4	bigalke r c	9	knight r	13	van wilgen b	644.00	witkowski e	0.64
5	witkowski e	8	le maitre d	12	sommerville j	629.33	cowling r	0.60
6	day j	8	moll e	11	mitchell d t	613.37	boucher c	0.58
7	loos m a	7	kruger f j	11	higgins k b	571.00	bigalke r c	0.53
8	siegfried w r	7	lewis o a m	11	cowling r	524.60	kyriacou x	0.50
9	le maitre d	6	van wilgen b	11	boucher c	384.50	krauss j	0.50
10	kruger f j	6	macdonald i	11	manders p t	376.00	stock w d	0.48
11	lewis o a m	6	witkowski e	10	kruger f j	276.50	lewis o a m	0.46
12	manders p t	6	scholtz a	10	knight r	255.00	bossi l	0.41
13	van hensbergen h j	6	breytenbach g j	10	breytenbach g j	195.00	le maitre d	0.38
14	sommerville j	6	day j	9	scholtz a	194.00	siegfried w r	0.36
15	boucher c	6	manders p t	9	witkowski e	187.00	van der heyden f	0.33
16	rebelo a g	5	low b	9	linder h p	131.00	van hensbergen h j	0.32
17	van wilgen b	5	loos m a	8	macdonald i	130.00	jarman m l	0.32
18	giliomee j h	5	van hensbergen h j	8	greyling t	130.00	mcgregor k	0.32
19	stock w d	5	pierce s m	8	siegfried w r	88.00	romoff n	0.32
20	king j m	5	giliomee j h	7	bigalke r c	83.00	brown g	0.31

90s SUMMARY								
rank	label	degree centrality	label	no. of documents	label	betweeness centrality	label	eigen centrality
1	cowling r	24	cowling r	20	cowling r	2036.81	cowling r	1.00
2	marais c	21	marais c	11	marais c	1549.43	marais c	0.92
3	le maitre d	16	bond w	10	le maitre d	685.60	le maitre d	0.73
4	mustart p	11	le maitre d	9	donaldson j	533.50	higgins s	0.57
5	richardson d	10	mustart p	9	boucher c	417.00	midgley g	0.55
6	bond w	9	richardson d	9	bond w	406.50	turpie j	0.54
7	littlejohn g	9	rebelo a g	8	mustart p	369.96	constanza r	0.53
8	boucher c	8	fairall n	7	richardson d	362.59	mustart p	0.47
9	midgley j	8	van wilgen b	7	fairall n	346.66	bond w	0.45
10	loos m a	8	boucher c	6	wright m g	252.50	richardson d	0.39
11	midgley g	8	maze k	6	daitz d	252.00	van hensbergen h j	0.35
12	van hensbergen h j	7	britton p	6	kemper j	219.75	midgley j	0.32
13	donaldson j	7	littlejohn g	5	midgley j	214.13	laurie h	0.30
14	higgins s	7	midgley j	5	mckenzie b	181.78	scott m	0.27
15	turpie j	7	jackelman j	5	midgley g	170.00	du preez d	0.25
16	fairall n	6	holmes p	5	maze k	140.00	eckert j b	0.24
17	maze k	6	loos m a	4	jury m	86.00	richards m b	0.22
18	blomerus l	6	van hensbergen h j	4	lloyd w	86.00	kemper j	0.21
19	robyn a	6	donaldson j	4	turpie j	86.00	donaldson j	0.20
20	constanza r	6	mckenzie b	4	van hensbergen b	86.00	fairall n	0.19

2000s SUMMARY								
rank	label	degree centrality	label	no. of documents	label	betweeness centrality	label	eigen centrality
1	knight r	57	esler k	39	esler k	40139.02	knight r	1.00
2	esler k	51	knight r	37	knight r	31133.21	esler k	0.89
3	cowling r	36	milton s	26	van wilgen b	19616.29	van wilgen b	0.83
4	milton s	29	krug c	25	cowling r	16335.68	richardson d	0.68
5	van wilgen b	25	rebelo a g	24	mills a	13206.05	rouget m	0.65
6	impson d	24	cowling r	21	donaldson j	12851.38	cowling r	0.65
7	rouget m	23	impson d	15	rebelo a g	11965.69	milton s	0.61
8	rebelo a g	22	holmes p	14	rouget m	11767.48	le maitre d	0.61
9	richardson d	22	wood j	14	impson d	10781.36	cambray j a	0.50
10	krug c	21	richardson d	12	nel j	10548.74	nel j	0.48
11	le maitre d	20	boucher c	12	milton s	8786.56	krug c	0.46
12	boucher c	19	low b	12	kraaij t	8393.12	rebelo a g	0.45
13	cambray j a	19	raimondo d	11	oettle n	8041.00	boucher c	0.39
14	holmes p	17	dreyer l	10	botha a	7657.00	holmes p	0.38
15	dreyer l	17	krug r	10	boucher c	7424.80	nel j l	0.38
16	botha a	17	cunningham m	9	kruger n	7125.00	mgidi t n	0.38
17	nel j	17	bond w	9	krug c	6201.79	mdzeke n	0.38
18	cunningham m	16	privett s	9	malgas r	6201.00	henderson l	0.38
19	wood j	15	schutte-vlok a	9	richardson d	6085.89	neser s	0.38
20	raimondo d	15	ebrahim i	9	holmes p	5910.61	schonegevel l	0.38

2010s SUMMARY								
rank	label	degree centrality	label	no. of documents	label	betweeness centrality	label	eigen centrality
1	esler k	91	esler k	64	esler k	66467.72	esler k	1
2	slingsby j	43	cowling r	24	slingsby j	25766.43	slingsby j	0.5
3	cowling r	35	holmes p	23	holmes p	19155.01	allsopp n	0.32
4	midgley j	34	slingsby j	21	geerts s	14545.74	jacobs s	0.31
5	le maitre d	29	jacobs s	17	cowling r	13933.56	cowling r	0.31
6	jacobs s	27	allsopp n	16	le maitre d	12147.27	hall stuart	0.3
7	allsopp n	24	midgley j	16	midgley j	11705.37	midgley j	0.29
8	malgas r	23	rebelo a g	15	malgas r	10177.31	turner r	0.28
9	holmes p	21	ebrahim i	15	allsopp n	7916.11	le maitre d	0.28
10	oettle n	21	le maitre d	13	gaertner m	7401.46	midgley g	0.24
11	turner r	19	malgas r	13	richardson d	7306.42	gaertner m	0.24
12	curtis o	18	wood j	13	rossenrode t	7206	holmes p	0.23
13	hall stuart	18	gaertner m	12	curtis o	6925.6	schurr f	0.23
14	schurr f	17	curtis o	12	clarke d	6699.01	treurnicht m	0.22
15	geerts s	17	dorse c	12	roets f	6385.78	potts a	0.22
16	van wilgen b	17	schurr f	11	anderson p	5978.57	malgas r	0.21
17	johnson s	17	geerts s	10	oettle n	5927.29	slabbert e	0.2
18	hoffmann m t	17	anderson p	10	bond w	5774.46	jacobs k	0.2
19	rebelo a g	16	anderson b	10	hall stuart	5756.35	rozanov a	0.2
20	gaertner m	16	hall stuart	9	west a	5469.55	kambaj o	0.2

APPENDIX 5: FULL LIST OF ATTENDEES

Those in bold are the 103 individuals who have attended the most frequently (minimum of 8 times)

1. Aalbers Hans J
2. Abrahams A
3. Abrahams Adnaan
4. Abrahams Brent
5. Abrahams Dale
6. Abrahams Lauren
7. Achtleitner K
8. Ackerly David
9. Ackhurst Albert
10. Adam Michael
11. Adams Charles
12. Adams Christopher
13. Adams Janine
14. Adams Peter
15. Adams Robin-Jon
16. Adams Ruqaya
17. Adams Saa-Rah
18. Adams Trevor
19. Adonis Andries
20. Adonis Edward
21. Adriaanse Keigan Leigh
22. Adu-Acheampong Samuel
23. Afonso Louise
24. Africa Angelique
25. Afrika Hennie
26. Aggenbag Lize
27. Ahlmann Vicky
28. Airey Kaylyn
29. Aizen Marcelo
30. Akkers T
31. Alant Maretha
32. Alard Glynn
33. Alberts Johanita
34. Albertus Martin
35. Albertyn Janice
36. Alexander Grant
37. Alheit W de V
38. Allan Melloson
39. Allan Tamaryn
40. Allardice Roderick
41. Allsopp Janet
42. Allsopp Mike
43. **Allsopp Nicky**
44. Ally Farah
45. Ander Lance
46. Anderson Aileen
47. Anderson Bruce
48. Anderson M
49. Anderson Pippin
50. **Andrag Rudolf**
51. Andreas Bernacia
52. Andrew Maura
53. Andries Johannes
54. Angstmann Julia
55. Annecke Wendy
56. Anthony Washiela
57. Aplon Penelope
58. Appel Alliston
59. April Janice
60. Archer Edward
61. Archer Emma
62. Arends Verity
63. Arendse Adele
64. Arendse Arnold
65. Arendse Brittany
66. Arendse Nicole
67. Arendse Sumaya
68. Arndt R
69. **Ashton Elizabeth R**
70. Ashton Paul
71. **Ashwell Alice**
72. Aston Tim
73. Atkinson Helena
74. Atmore Sarah
75. Attwell Roelf
76. Atwaru Yakeen
77. Augustyn Willem
78. Auret Willie
79. Avierinos Cathy
80. Avis Jerry
81. Ayuk James
82. Azorin Esteban
83. **Baard Ernst H W**
84. **Baard Johan**
85. Baatjies Michelle
86. Badenhorst Jos
87. Badenhorst N C
88. Bailey Curtis
89. **Bailey Roger**
90. Baker A C
91. Baker Lilian
92. Baker Natalie
93. Bakker Hans Peter
94. Balakisi Sibusiswe
95. Balie Quinton
96. Ball Jaana-Marie
97. Ballentyne Fiona
98. Balmer Alice
99. Banda Azwell
100. Bands Don P
101. Barendse Jaco
102. Barett Crispin
103. Barger Nichole
104. Barker Nigel
105. Barlow-Weilbach D J
106. Barnard Phoebe
107. Barnard S A
108. Barnett Mandy
109. Barodien Glynnis
110. Barros Fernanda
111. Barry Tom
112. Basic Dunja
113. Basson Justin
114. Basson Riaan
115. Basson Sunet
116. Bateman Harry
117. Bauer-Schmidt Nicole Anne
118. Bayer M B
119. Bean P A
120. Becker Carina
121. Begoa Xavier
122. Bekker Fanie
123. Bekker S J
124. Bekkers J
125. Bekko Ieptieshaam
126. Belcher Antonia
127. Belelie Elize
128. Bell Gavin
129. Bell Ian C
130. Bell Wesley
131. Bellingham Terence
132. Bellstedt Dirk
133. Benade P C
134. Bennett Nicolette
135. Benwell Andrew
136. Berens Chris J
137. Berington Wesley
138. Berning Joan
139. Berry Mark
140. Bester Sadriette
141. Beukes Andre
142. Beukes Dometrian
143. Beukes Manfred
144. Beukes Maya
145. Beukes Otto
146. Beukes Pierre C
147. Beukes Ronel
148. Beukman Gary
149. Bewsher Paul
150. Beyers Andrea
151. Bezuidenhout Anel
152. Bezuidenhout Liezl
153. Bhele XolelwaGloria
154. Bieding Natasha
155. Bigalke Rudi C
156. Bigs Charlene
157. Biko Ayanda
158. Binneman Carlene
159. Bird Matthew
160. Birss Coral
161. Bisho William
162. Blanchard Ryan
163. Blatchford Megan
164. Blekiwe Zibele
165. Blignaut Anel
166. Blignaut James
167. Blignaut Jill
168. Blignaut Peter
169. Blmoerus Louisa
170. Blondel J
171. Bloomer Paulette
172. Boelhouwers H
173. Boelhouwers Jan
174. Boltman Zohra
175. Bombaard Batian
176. **Bond William J**
177. Bonora Daniela
178. Bonthuys Jorisna
179. Booi Nozuko
180. Boonzaaier Melissa
181. Boonzaier Anton
182. **Booth Pamela**
183. Booysen Dennis
184. Bornman Johan
185. Bosch Jan M
186. Bosenberg J de W
187. Boshoff Andre H
188. Boshoff Anton
189. Bosma Sharon
190. Bosman Craig Yvonne
191. Bosman Marius
192. Bosman Stefan
193. Bossi Lucia
194. Botes Christo
195. Botes Engela
196. Botes Peet
197. Botes Rachel
198. Botha Alf
199. Botha Bronwyn
200. Botha Christa
201. Botha Hannes
202. Botha Johnnyboy
203. **Botha Mark**
204. Botha Michelle
205. Botha Petro
206. Botha Pieter
207. **Botha Susan A**
208. Bottrie Dennis
209. Boucher Andre
210. **Boucher Charlie**
211. Bourne Amanda
212. Bowie Andrea
213. Bowie Verna
214. Bowmer David
215. Boycott R
216. Braak Andrew M
217. Bradshaw Peter
218. Bragg Christy
219. Brand Mariette
220. Brand Marius
221. Brandt Clarissa
222. Breitenbach Marie
223. Brett Michael
224. Breytenbach E
225. **Breytenbach G J**
226. Breytenbach W
227. Brink Abraham
228. Brink Liesl

229. Brink Zanne
230. Brinkcate Therese A
231. Brits G J
232. Britton D
233. Britton Elsabe
234. Britton Jonathan
235. Britton Paul
236. Britton Pen
237. Brockman Yzelle
238. Brodrick Christopher
239. Broom Casey
240. Brown Andrew
241. Brown B
242. Brown Gary
243. Brown Mark
244. Brown Neville A C
245. Brown P J
246. Brown S A
247. Brownlie Susie
248. Bruwer Charel
249. Bruyns Ryan
250. Bryan Audrey
251. Bucholz Paul Werner
252. Buckle Japie
253. Buirski Lindie
254. Bulpitt Jurina
255. Bunu Thobela
256. Burger Daleen
257. Burger Elzane
258. Burger Johan
259. Burgers Chris J
260. Burgess Claire
261. Burgoyne Priscilla
262. Burt Graham
263. Bushula Thembela
264. Buthelezi Siyabonga
265. Buwa Pumza
266. Buwa Zipokazi
267. Cader Luthfia
268. Cadman Amanda
269. Calitz Wynand
270. Cameron A
271. Cameron Flora
272. Cameron Mike
273. Campbell Bruce M
274. Campbell Tessa
275. Campbell-Young Gael
276. Campbell-Young Trevor
277. Carels G
278. Carelse R J E
279. Carelse Shagon
280. Carinus Tertius
281. Carlson Jane
282. Carolissen Mandy
283. Carolus Berenice
284. Carrick Peter
285. Carstens Morne
286. Carter A J
287. Cattell Peter
288. Cele Bhekisisa
289. Cele Mandisa
290. Chadwick Peter
291. Chakona Albert
292. Channing Alan E
293. Charlton Valerie
294. Chauke Oupa
295. Chauke TinyikoChester
296. Cheney Chad
297. Chesselet Pascale
298. Chimphango Samson
299. Chipu Ngoakwana
300. Chirango Yolanda
301. Chisholm Ryan
302. Chivell Wilfred
303. Christaan Reginald
304. Christie Jessica
305. Christoffels Jermaine
306. Church Collin
307. Cillier Anneke
308. Cilliers Charl
309. Claasen A
310. Clark Derek L
311. Clarke Daniel
312. Cleaver-Christie Gail
313. Cloete Cindy-Lee
314. Cloete Elbe
315. Cloete Kimberlee
316. Cloete Sam
317. Cluver Paul
318. Cluver Songvei
319. Cocks Martin
320. Coetsee Corli
321. Coetzee Cobus
322. Coetzee Elverina
323. Coetzee J A
324. Coetzee J H
325. Coetzee Jan
326. Coetzee Julie
327. Coetzee Ken
328. Coetzee Letsie
329. Coetzee Marbe
330. Cohen Callan
331. Cohen Mike
332. Colburn Elbie
333. Cole Lita
334. Cole Nicholas
335. Coleman Jayne
336. Coley P G Frank
337. Coller Terence
338. Collin Norman
339. Colling Janine
340. Collins Tasneem
341. Colville Jonathan
342. Colyn Rachel
343. Colyn Robin
344. Combrink Henri
345. Combrink Pierre
346. Compaan Adriaan
347. Conrad Ferozah
348. Conradie Beatrice
349. Conradie Everhard
350. Cook Gabbi
351. Cooke Penny-Jane
352. Coombes P
353. Cooper James
354. Corbett D
355. Cornelissen Stephanie
356. Cornish-Bowden Grant
357. Correia RI
358. Court Samanatha
359. Cousins Stephen
360. Coutriers Sharndre
361. Cowan Andrea
362. Cowan Oliver
363. Cowell Carly
364. Cowling Richard M
365. Cox Martin
366. Cozett Shaun
367. Crab Luthando
368. Cramer Mike
369. Crane Wendy
370. Crossley A M
371. Crous Casper
372. Crous Hildegard
373. Crous Pedro
374. Crowe Tim
375. Cumming Tracey
376. Cunliff Rob N
377. Cunningham Michael
378. Cupido Clement
379. Cupido Dawid
380. Curran Dave
381. Curran Helen
382. Currie Bianca
383. Curtis Odette
384. Cuthill John
385. Cyster Lillburne
386. Dabusch Julia
387. Daines A
388. Daitz David L
389. D'Alton Heather
390. D'Alton Mick
391. Damons Monique
392. Damoyi Thuleka
393. Daniel Bronwen
394. Daniel Fezeka Faith
395. Daniel Shaddai
396. Daniels Darril
397. Daniels Fahiema
398. Daries Joan
399. Dausas Memory
400. Davey Neville
401. Davey Paddy
402. Davids Ayesha
403. Davids Deon
404. Davids Eric
405. Davids John
406. Davids Shahieda
407. Davids Zoe
408. Davies Brian R
409. Davies Craig
410. Davies Helen
411. Davies K
412. Davies Richard
413. Davies Sarah
414. Davis George W
415. Dawood Abeda
416. Dawson B L
417. Day Jenny A
418. Day Liz
419. Day Victoria
420. Dayaram Anisha
421. DeAbreu Petra
422. Deacon Guy
423. Deacon Hilary J
424. Dean Richard
425. deBeer Bettie
426. DeBeer Hennie
427. deBruyn J A
428. deBuys Abri
429. Deignan MT
430. deJaar Johnny
431. deJager Ethel
432. deJager Marinus
433. deJongh Johann
434. DeKella Christalene
435. deKlerk Helen
436. deKock A E
437. deKock Gary
438. deKock Marisa
439. deKock-Nel Susan
440. deKoker Edgar
441. deKoker P H
442. deKoker T H
443. delaFontaine Samantha
444. Delahunt Kerry
445. Delahunt Peter
446. deLange C
447. Delius Almuth
448. Delport Hennie
449. denBreeyen Alana
450. deNier Mike
451. Denison Mike
452. Denman Sandra
453. Dennill G B
454. deRoubaix Louise
455. deSwardt D C
456. deSwartz Quinton
457. deViliers Barbara
458. deVilliers Ancois
459. deVilliers Atherton
460. deVilliers Caroline
461. deVilliers Charl
462. deVilliers Charlene
463. deVilliers Margaret
464. deVilliers Pierre
465. Devine Anel
466. deVynck Jan
467. deWaal Caroli
468. deWet J M
469. deWit Maarten
470. DeWitt Bernard
471. deWitt J B
472. deWitt Martin
473. Diedericks Genevieve
474. Dingani July
475. Dlamini Cliff
476. Dlanbantu Mpumelelo
477. Dludlu Meshack
478. Domingo Fadlu
479. Domingo Farha
480. Donald D G M
481. Donaldson John
482. Dondi Namhla
483. Donelly Di
484. Donian Ivan

485. Dorrat-Haaksma Els
486. Dorse Clifford
487. Dorse Suretha
488. Dowling Patrick
489. Dowling Sandy
490. Drewe P B
491. Dreyer Dian
492. Dreyer Leanne
493. Dreyer Natanya
494. Dreyer Taryn
495. Driver Amanda
496. Duckitt Mark
497. Duffell-Canham Alana
498. Dukas Philip
499. Duma Makaziwe
500. duPlessis Anne
501. duPlessis Charl
502. duPlessis Jannie
503. duPlessis Johan
504. duPlessis Len
505. duPlessis Rika
506. duPlessis Shaun
507. duPlessis-Reed Lozelle
508. duPreez Braam
509. duPreez Brian
510. duPreez Desiree
511. duPreez Lizanda
512. Durrheim Graham
513. Duthie Melanie
514. duToit Delina
515. duToit Gerald
516. duToit Janet
517. duToit Lucy
518. duToit Sakkie
519. duToit Steven
520. Duvenhage Engela
521. Dwarika Yolande
522. Dworkin Laurence
523. Dyabooi Luwanda
524. Dyer Robert
525. Ebersohn Colleen
526. Ebersohn Janet
527. Ebersohn Johan
528. Ebrahim Ismail
529. Ebrahim Zishan
530. Eckley Tommy
531. Edge David
532. Edward Shelley
533. Egan Lorraine
534. Egbers Lieke
535. Egypt Megan
536. Ehrhardt Carol
537. Eichenberger Liesl
538. Eifler Evan
539. Eksteen Lameez
540. Elford Dipolelo
541. Ella Ghislain
542. Ellery Fred
543. Ellis Allan
544. Ellis Freddie
545. Ellis Laetitia
546. Ellis Roger
547. Ellman Roleen
548. Eloff Gareth
549. Eloff J N
550. Eloff Lindi
551. Ely Jason
552. Emms Paul
553. Engel Liza
554. Engelbrecht Bentley
555. Engelbrecht Danniel
556. Engelbrecht Hanlie
557. Engelbrecht Lizanne
558. Engeldow Henry
559. English Kelby
560. Enzlin L
561. Epstein Heather
562. Erasmus Dianne
563. Erasmus Leonie
564. Erasmus R
565. Erasmus Sonja
566. Erasmus Zane
567. Erlank Wayne
568. Ernstzen Roy
569. Ernszt Martina
570. Esau Philip
571. Esler Karen J
572. Essop Tasneem
573. Esterhuizen AD
574. Euston-Brown Douglas
575. Evans Malikah
576. Everard Dave A
577. Faasen Nadia
578. Fabing Jennifer
579. Fabricius Christo
580. Facu P
581. Fairall Neil
582. Faku Patrick
583. Falanga Sandra
584. Faltein Zintle
585. Fanayo Lulama
586. Farley Nicola
587. Farr Trevor
588. Fearon Joclyn
589. February Edmund
590. February Rodney
591. Felaar Marshall
592. Feldman Farrah
593. Fenn J A
594. Ferreira Dean
595. Ferreira John F
596. Ferreira Louwrens
597. Fester Kayleen
598. Fick Chandra
599. Fick Mandy
600. Fick Paul
601. Fill Jennifer
602. Findlay Sarah
603. Fischer Ruth-Mary
604. Fish Kathryn
605. Fleming Campbell
606. Flepu Vuyolwethu
607. Floris Morris
608. Flynn A
609. Foden Wendy
610. Fogell Marion
611. Foot Erika
612. Forbes Alexander
613. Forbes Cherie
614. Forbes Grant
615. Forrester Jane A
616. Forsyth Greg
617. Forsyth James
618. Forsyth Therese
619. Fortuin Adrian
620. Foster Bronwen
621. Foster K
622. Fouche Hanlo
623. Fourie Hermien
624. Fourie Johannes
625. Fourie Kirsten
626. Fourie Marno
627. Fourie MarthinusJacobus
628. Fourie Naomi
629. Fourie Saskia
630. Fowkes John
631. Fowkes Sandra
632. Fox Helen
633. Fox Sarah-Jane
634. Francis Adrian
635. Franklin David
636. Frantz Theressa
637. Franzsen Pieter
638. Fraser M W
639. Frazee Sarah
640. Freckleton Kirsten
641. Fredericks Cashandra
642. Fredericks F
643. Fredericks M
644. Fredericks Malcolm
645. Fredericks Martinus
646. Freeth Rebecca
647. Frehse Karin
648. Frost J P
649. Frost P
650. Fry M
651. Fuentes E R
652. Fuggle Richard F
653. Fugler S R
654. Fulani Mzwandile
655. Fullard Clarina
656. Fuller Shayne
657. Fuller Shelly
658. Furness Penelope
659. Gabriel Alvan
660. Gabriels George
661. Gaedke Hendrik
662. Gaertner Mirijam
663. Gaisford Wendy
664. Gale Barbara
665. Gallaher Kirsten
666. Gallant Luke
667. Gallo John
668. Galloway Alistair
669. Galloway Craig
670. Galuszynski Nicholas
671. Gane Julie
672. Garcia Raquel
673. GarciaCorbeira Maria
674. Gardee Muhammed
675. Gardener Roy
676. Gardiner AJC
677. Gardiner DeanWaldemar
678. Gardiner J A
679. Gardner T
680. Garman Joy
681. Gasson Barrie
682. Gee Agnes
683. Geenen Kayla
684. Geerts Sjirk
685. Geland Christabel
686. Geldenhuys Christina
687. Gelderblom Caroline
688. Genis Amelia
689. Gentle Mark
690. Georgiou Nicole
691. Gerber Audrey
692. Gerber Francois
693. Gerber Gerhard
694. Gerber Leandri
695. Gerber Liezel
696. Gerber Paul
697. Gerhard Christiaan
698. Gericke Joshua
699. Germishuys Hennis
700. Gerrans Lorraine
701. Gerrick Joshua
702. Gervais Aaron
703. Gets Hettie
704. Ghebremariam Ghirmai
705. Gibbs Dalton
706. Gibbs-Halls Vernon
707. Gibson Michelle
708. Gibson-Dicks Cheryl
709. Gie Susan
710. Gildenhuys Paul
711. Gildenhuys Steven D
712. Giles Derec
713. Giliomee Johmandie
714. Gillson Lindsey
715. Ginsburg Aimee
716. Glanville Penny
717. Glen Samantha
718. Glenday Julia
719. Glynn J
720. Glyphis J P
721. Goddard Carmen
722. Goeding J
723. Goemas Willem
724. Goets Stefan
725. Golding Janice
726. Goldman Tanya
727. Goliath Natasha
728. Goloff Benjamin
729. Gonzalez Maria
730. Goodall Victoria
731. Gordon Andrea J
732. Gordon Helen
733. Gordon Mikaila
734. Gordon Paddy
735. Gordon Tony
736. Gosling Melanie
737. Gould M
738. Goument Stephen
739. Gouws Jeanne
740. Gouza Jenifer

741. Govender Mishelle
742. Grabe Danie
743. Graham Abigail
744. Grant Thelani
745. Graton Peter
746. Graven Earle
747. Graven Una
748. Gray Anne
749. Gray Gael
750. Greeff Gert
751. Greeff Peter
752. Green Jane
753. Green John
754. Green Neville
755. Gregor Mike
756. Greve Michelle
757. Greveling Simone
758. Grey D C
759. Grey Penelope
760. Greyling Tisha
761. Griffiths Morgan
762. Grindley John R
763. Grobler Adriaan
764. Grobler Barend
765. Groener A
766. Groenewald Andreas
767. Groenewald Jannie
768. Groenhof Ivan
769. Groos Martin
770. Grootendorst Nellie
771. Gubb Andy
772. Gudlindlu Dinilesizwe
773. Gull Katie
774. Gumbi Duma
775. Gundula Lucky
776. Guthrie Gene
777. Guy Deacon
778. Gwele Zwelithini
779. Gwynn-Evans David
780. Gysman Bridgette
781. Haarhof P
782. Hadres-Willliams Gareth
783. Hadwen Tayla
784. Hall Anthony V
785. Hall D
786. Hall Stuart
787. Halvorsen Martin
788. Hamman Kas C D
789. Hanekom Jakob
790. Hanekom Niklaas
791. Hannay Gwen
792. Hansen Bethany
793. Hanslo Chantel
794. Hardcastle Paul M
795. Harding Graham B
796. Harding Mark
797. Hardres-Williams Gareth
798. Hardwick Kate
799. Hardwood T
800. Harley Eric
801. Harmse Suna
802. Harrington Jane
803. Harris Danielle
804. Harris Ivan
805. Harrison James
806. Harris-Smith Tamara
807. Harrower Adam
808. Harrrison Dean
809. Hartmann Zanele
810. Hartney Daphne
811. Harvey William
812. Haskin Candice
813. Hathorn Paula
814. Hattas Dawood
815. Hawken Lara
816. Hawker P A
817. Hawkins Heidi-Jayne
818. Hayes Jessica
819. Hayes Johan B
820. Hayes Richard
821. Hayward Natalie
822. Heard Duncan
823. Heard Hilton W
824. Hector Wayne
825. Heeleman Steffan
826. Heese Sue
827. Heijnis Charlotte E
828. Heine Johan
829. Hellstrom Cathy
830. Hellstrom Gavin
831. Hellstrom Nicolene
832. Helme Nick
833. Hemborg Asa
834. Hempson Gareth
835. Henderson Catherine M
836. Henderson Owen
837. Hendey Q B
838. Hendricks Alana
839. Hendricks Hannes
840. Hendricks Luzanne
841. Hendricks Ricardo
842. Hendricks Verinique
843. Hendrikse Madre
844. Henn Susan
845. Henning Sheila
846. Henschel Torsten
847. Henshall Michael
848. Henshall-Howard M P
849. Hepburn H R
850. Herb Stephan
851. Herbst Marbe
852. Herd Hylton
853. Herdien Earl
854. Herholdt Johan P
855. Herppich M
856. Herron Margaret
857. Hershelman J C
858. Hettasch Hans
859. Hey Douglas
860. Hey Sally
861. Heydenrych Aneria
862. Heydenrych Barry
863. Heydorn Alan
864. Heystek Anina
865. Higgins K B
866. Higgins Steven
867. Highburg Goliath
868. Highburgh Goliath
869. Hill Amy
870. Hill Henry
871. Hill Martin
872. Hill Peter W
873. Hiseman Rhett
874. Hitchcock Anthony
875. Hitchcock Anthony N
876. Hitchcock Wendy
877. Hitchins Dianne
878. Hlatwayo Tsfolofelo
879. Hlawatika M
880. Hoarau Michael
881. Hoare David
882. Hobbs R
883. Hoekstra Tierck
884. Hoffman Michael Timm
885. Hoffman Tali
886. Hoffmann John H
887. Hoffmann Vera
888. Hofmeyr Sally
889. Holland Andre
890. Holmes Patricia M
891. Holness Stephen
892. Holsinger Kent
893. Homann Hennie J
894. Hoole Marion
895. Hoosain Moe'mina
896. Hope Allen
897. Hopkins Tapani
898. Horn Anne
899. Hornimann Wentzel
900. Hossein Sarah
901. Howa Fay
902. Hudson J L
903. Hudson Vicki
904. Hugo Christine
905. Hugo Ferdi
906. Hugo Leon
907. Huisamen Johan
908. Hulbert Joey
909. Hunter Roland
910. Huntley Brian J
911. Huntley Merle J
912. Huntly Philippa
913. Hunziker Fran
914. Hurd Carol
915. Husted Lara
916. Hutchinson Sarah-Leigh
917. Huyser Onno
918. Illing Nicola
919. Impson Dean
920. Impson Fiona
921. Iponga Donald
922. Irlich Ulrike
923. Isaacks Richard
924. Isaacs Goosain
925. Isaacs M
926. Isaacs Rondine
927. Isham Joan
928. Ivey Philip
929. Jack Sam
930. Jack Timothy
931. Jackelman James
932. Jackson Chumisa
933. Jackson Joanne
934. Jacob Danniel
935. Jacobs Adam
936. Jacobs Johnny
937. Jacobs Kareemah
938. Jacobs Llewellyn
939. Jacobs Louis
940. Jacobs Mbulelo
941. Jacobs Shayne
942. Jacobs Virgil
943. Jacobsen Anna
944. Jafta James
945. Jalving R J
946. Jama Kanyisa
947. James Daniel
948. James Hilton
949. Jamieson Hanneke
950. Janeke D
951. Jangle Robin
952. Jansen Joy
953. Jansen Malton
954. Jansen Thomas
955. Jansen-Van-Vuuren Toinette
956. Janssen John
957. Jantjies Reginald
958. Januarie Ricardo
959. Januarie Roland
960. Japhta James
961. Jarmain Caren
962. Jarmain Margie L
963. Jarvis Jenny
964. Jasson Rene
965. Jayiya Terrence
966. Jeffrey Douglas J
967. Jefthas Elton J
968. Jenkins Andrew
969. Jenneker Madeleine
970. Jephtha Deugeld
971. Jini Antoinette
972. Job Nancy
973. Jobe Sizwe
974. Jodamu Norma
975. Johaar Rafieka
976. Johannes Hendrik
977. Johannes Tarne
978. Johns M S F
979. Johns Mark
980. Johnsen Bridget
981. Johnson Christopher
982. Johnson Marion
983. Johnson Steven
984. Johnston P A
985. Jolly N P
986. Jonas Nokuzola
987. Jonas Sihle
988. Jonas Zuziwe
989. Jones C
990. Jones Genevieve
991. Jones Lee
992. Jones Sharon
993. Jongens-Roberts Sharon M
994. Jonker Connie
995. Jooste J H
996. Jooste Mark

997. Jordaan Aletta
998. Jordaan Frans
999. Jordaan Helen
1000. Jordaan Martine
1001. Jordaan Meggan
1002. Joseph Clint
1003. Josephs Randall
1004. Joubert Chrisna
1005. Joubert Marlise
1006. Joubert Peet
1007. Joubert Rebecca
1008. Juba Roderick
1009. Jubase Nolwethu
1010. Juhnke S R
1011. Jula Dumisane
1012. Julies Meyer
1013. Julius Alexia
1014. Jumat Zain
1015. Jurgens Eunice
1016. Jury Mark
1017. Justus Clive
1018. Kaiser Lara
1019. KambajKambol Oliver
1020. Kamineth Abigail
1021. Kamp Yvonne
1022. Kansky Ruth
1023. Kapdi Farzana
1024. Kaplan Bentley
1025. Kaseke KudzaiFarai
1026. Kassier Carmen
1027. Katzschner Tania
1028. Kaye Ryan
1029. Kayster Rhonwen
1030. Kearns Nicholas
1031. Keat D
1032. Keeley Jon
1033. Keet Jan-Hendrik
1034. Keith Mark
1035. Kelderman Natalie
1036. Kellerman Elana
1037. Kellerman Henda
1038. Kellermann Kobus
1039. Kelly Mbulelo
1040. Kelly Ralph
1041. Kemp Jurene
1042. Kemper Jessica
1043. Kempton-Jones P
1044. Kennel D
1045. Keswick Toby
1046. Ketley Ann
1047. Ketse Nosiphiwe
1048. Keyser Jeremy
1049. Kgantsi Boitshekwane
1050. Khan Asieff
1051. Khan Naadhira
1052. Khanyile Jimmy
1053. Khena Duduzile
1054. Kieck Marius
1055. Kilian Darrell
1056. Kilian Kay-Leigh
1057. Kilroy Hayley
1058. King Jackie M
1059. Kinzela Noxolo
1060. Kippie Ieptieshaam
1061. Kirkman John
1062. Kirkman Karen
1063. Kirkman Stephen
1064. Kirkwood Donovan
1065. Klaussner E
1066. Klein Charmaine P
1067. Klein Gail
1068. Klein Galvin
1069. Kleyhans Christie
1070. Kleynhans Chrizette
1071. Kluge R
1072. Knaggs Jimmy
1073. Knaggs Ronel
1074. Knaggs William
1075. Knight Andrew
1076. Knight Liezel
1077. Knight Richard S
1078. Knoesen Hans
1079. Koali Nneheleng
1080. Kobese Siyabulela
1081. Koch Adrie
1082. Koch Fiona
1083. Koelle Bettina
1084. Koen Melanie
1085. Kok Rynhard
1086. Koker Paul
1087. Kollmann Therese
1088. Kongor Raphael
1089. Kooitjie Albertus
1090. Koopman Margaret
1091. Koopman Rupert
1092. Koopman S G
1093. Kopile Thobeka
1094. Kortje Hendry
1095. Korver Yvonne
1096. Kose Lerato
1097. Kotze Deon
1098. Kotze Donna
1099. Kotze Ian
1100. Kotze Inge
1101. Kotzee Ilse
1102. Kraai Sandiso
1103. Kraaij Tineke
1104. Kragh Vibeke
1105. Krauss J
1106. Kritzinger-Klopper Suzaan
1107. Krug Connie B
1108. Krug Rainer
1109. Kruger Fred J
1110. Kruger Raldo
1111. Kruger Ruan
1112. Kubayi Rhulani
1113. Kuhn Catherine
1114. Kula Luxolo
1115. Kula Senza
1116. Kuyler Jacques
1117. Kyriacou Katharine
1118. Kyriacou X
1119. Laan R W
1120. Lacey Claire Lynn
1121. LaCock G
1122. LaGrange Reda
1123. Laidler Dennis F
1124. Laidler Gigi
1125. Lakay Vanessa
1126. Lamani Lonwako
1127. Lamb A J
1128. Lamb Stephen
1129. Lambers Hans
1130. Lambert Clyde
1131. Lambrechts Jan J N
1132. Lambrechts Niel
1133. Lamont Byron B
1134. Lamour Malcolm
1135. Lane Patrick
1136. Langa Percy
1137. Langley Howard
1138. Laros Marlene
1139. Lategan Chris
1140. Lategan Sarien
1141. Latimer Andrew
1142. Latsky LM
1143. Laurie Henri
1144. Law Daniella
1145. Lawston Brett
1146. Layne Tanya
1147. Le Roux Walker Claret
1148. Leaner Darin
1149. leBrun Robert
1150. Lechmere-Oertel Richard
1151. Lee Alan
1152. Lee Chris
1153. Lee Seonju
1154. Leitch N
1155. LeKeur Kelsy
1156. Lekwene Sharon
1157. LeMaitre David C
1158. Lembethe Zithobele
1159. Lensing Joan E
1160. Leonard Jenny
1161. Lepete Tebello
1162. Leppan J
1163. LeRoux Annelise
1164. LeRoux Barend
1165. LeRoux Christa
1166. LeRoux Claret
1167. LeRoux Eben
1168. LeRoux Elise
1169. LeRoux Elton
1170. LeRoux Elton
1171. LeRoux J J
1172. LeRoux Jurina
1173. LeRoux Louine
1174. LeRoux Phillip H
1175. LeRoux Piet
1176. LeRoux Renee
1177. Lesch Marianne
1178. Lessing Vanessa
1179. Levendal Minnelise
1180. Levitt Micky
1181. Lewarne Mireille
1182. Lewis Graham
1183. Lewis Lindsay
1184. Lewis Matthew
1185. Lewis Michael
1186. Lewis Owen A M
1187. Liebenberg Alan
1188. Liede S
1189. Liengme Christine
1190. Lieske Rainer
1191. Lindani Khungeka
1192. Lindani Sabelo
1193. Linder H Peter
1194. Lindley A J
1195. Lindsay-Rea Marc
1196. Linger M
1197. Little Rob
1198. Littlejohn Gail M
1199. Liu WingPuiAmy
1200. Lloyd Peter H
1201. Llongarru Antoni
1202. Lloyd Frieda
1203. Lloyd Wendy J
1204. Lochner Paul
1205. Lochner Susanna
1206. Loedolff C Jeanette
1207. Logie Bart
1208. Logie Caryl
1209. Lolwana Goodwill
1210. Lolwane Ntombi
1211. Lombaard Andre
1212. Lombard Gert
1213. Lombardi Giorgio
1214. Lombo Amos
1215. Lombo Luyanda
1216. Loos A M
1217. Loos Christian
1218. Loos Michael A
1219. LopezZozaya Elena
1220. Losaba Khahliso
1221. Lot Marianna
1222. Lotter Yvette
1223. Loubser Byron
1224. Lourens Christien
1225. Lourens John
1226. Lourens Koos
1227. Lourens Leon
1228. Louw Brenda
1229. Louw Gideon N
1230. Louw Landi
1231. Louw Marike
1232. Louw N
1233. Louw Nicolas
1234. Love Verna
1235. Lovegrove Barry
1236. Low A Barrie
1237. Lowe Steven
1238. Loza Joyce
1239. Lubke Roy A
1240. Lucas Lyle
1241. Lucas Marthenus L M
1242. Lumkwana Siyabulela
1243. Lutzeyer Michael
1244. Luyt Chavoux
1245. Lynch Keir
1246. Lyners Hadley-John
1247. Lyons Candice
1248. Lyons Hester
1249. Maarman Derrick
1250. Maart Lucille
1251. Maart Taryn
1252. Maartens Chris

1253. Maboe GloriaOsenkeng
1254. Mabunda Makhegu
1255. Mabuyane Khuselwa
1256. MacDonald Allisdair
1257. Macdonald Ian A W
1258. MacDowell Clive
1259. Macgegor Neil
1260. MacGillivray D B
1261. MacGregor K J
1262. Mackay C
1263. Mackenzie Thomas
1264. Macpherson Allan James
1265. Macqueen Timothy
1266. Mader Andre
1267. Maditla Neo
1268. Mafame Thendo
1269. Mafelatshuma Fulufhelo
1270. Magadlela Dumisani
1271. Magadzire Nyasha
1272. Magasela Bongiwe
1273. Mager Denise
1274. Magerman Morne
1275. Magidi James T
1276. Magoba Rembu
1277. Magutywa Felicia
1278. Mahlabe Joseph
1279. Mahood Kirsten
1280. Main Carin
1281. Majara Lebohang
1282. Makady Elvis
1283. Malan Christien
1284. Malan Derek
1285. Malan Gerhard
1286. Malan Michelle
1287. Malan Pieter
1288. Maleka Mmakwena
1289. Malesele Kgalalelo
1290. Malgas Rhoda
1291. Malherbe Sarel
1292. Maliehe Teboho
1293. Mamabolo Tshepo
1294. Manchip S J
1295. Manders Pat T
1296. Mandlake Jerret
1297. Maneveldt G W
1298. Mangachena Joy
1299. Mangcangaza Mubelo
1300. Mangcengeza Andile
1301. Mangqalaza Mandisa
1302. Mangwana Phindile
1303. Maninng John C
1304. Mann Gareth
1305. Mantle E
1306. Manuel Jeffrey
1307. Manuel Theo
1308. Manzana Sihle
1309. Manzoni Tamyrn
1310. Maoela Malebajoa
1311. Maphangwa Walter
1312. Maphiri Daniel
1313. Marabane Surgeon
1314. Marais Andrea
1315. Marais Anri
1316. Marais Bettie
1317. Marais Christo
1318. Marais Dianne
1319. Marais Fritz
1320. Marais Karen
1321. Marais Sarshen
1322. Marais Steyn
1323. Marean Curtis
1324. Maree J O
1325. Maree Kerry
1326. Marell Emile
1327. Maritz F
1328. Markham Rob
1329. Marks Skye
1330. Marr Sean
1331. Marrao E
1332. Mars Christina
1333. Mars Gerrit
1334. Marsh Alex
1335. Marsh Carol
1336. Marshall Anthony Hugh
1337. Marshall Mark
1338. Martens Chris
1339. Martin Brett
1340. Martin Faslona
1341. Martin R
1342. Martin-Vermaak Marilyn
1343. Masemola Midah
1344. Mashudu Pandelani
1345. Mashula Kabelo
1346. Masinyane Lindile
1347. Massey Ruth
1348. Massyn Ivan
1349. Masubelele Mmoto
1350. Mata Thobela
1351. Mathenjwa Fezile
1352. Mathiyane Katy
1353. Mathys Cindy
1354. Matimati Ignatius
1355. Matimati Lizo
1356. Matjila Mthabatah
1357. Matjuda Donald
1358. Matoti Ayanda
1359. Matschke Louise
1360. Matsha Goodman
1361. Matsha Temba
1362. Matsoaboli Thabang
1363. Matthews Dimitri
1364. Matthews Gordon
1365. Matthews Jenny
1366. Matthews Sue
1367. Mattison Brian
1368. Mavume Maureen
1369. Maxatase Melvin
1370. Mayer Katharina
1371. Mayoli Noluthando
1372. Maze Kristal
1373. Mazosiwe Thabiso
1374. Mbada Aliswa
1375. Mbangezel Yongama
1376. Mbanjwa Dominic
1377. Mbashe Nyaniso
1378. Mbedzi Mulalo
1379. Mbiko Vuyiseka
1380. Mbombo C
1381. Mboniswa Elonathemba
1382. Mbopha Malukhanye Steven
1383. Mbukutshe Siyagonga
1384. Mcata Pholela
1385. McClelland Arabel
1386. McConnachie Lauren
1387. McConnachie Matthew
1388. McDonald Alisdair
1389. McDonald David J
1390. McDowell Clive
1391. McDowell Clive R
1392. McGeoch Melodie
1393. McGibbon Lorraine
1394. McGivern Aidan
1395. McGregor Ann
1396. McGregor Colin
1397. McGregor Eleanor
1398. McGregor K
1399. McIntyre Bob
1400. McIntyre Ena
1401. McKenzie Bruce
1402. McKie Charlene
1403. Mckrill Leanne Joy
1404. McLaren P M
1405. McLennan S
1406. McManus Jeannine
1407. McMaster Cameron
1408. McMaster Rhoda
1409. McNarland Sally
1410. Mdala Mandisa
1411. Mdalase Ntombizikhona
1412. Mdalase Zikhona
1413. Mdange Milisa
1414. Mdayi Naomi
1415. Mdingi Sibulele
1416. Mdlangu Thabisa
1417. Mdlazi Thumeka
1418. Mdoda Malusi
1419. Mdzeke Naomi
1420. Meadows Mike E
1421. Meets Michiel
1422. Mei Nomama
1423. Melin Annalie
1424. Mellville Hestelle
1425. Memani RonSabeloLuvo
1426. Memiaghe Herve
1427. Mendela Thando
1428. Mendelsohn Stephie
1429. Menzikwa S
1430. Menziwa Sipho
1431. Merrett Karen
1432. Metcalfe Elizabeth
1433. Meyer Andre
1434. Meyer Patrick
1435. Meyers Nathan
1436. Mgidi Theresa
1437. Michaels Stacy-Anne
1438. Micheals L
1439. Michels Penelope
1440. Middelmann Maryke C
1441. Middelmann Robert
1442. Middelmann Ruth
1443. Middelmann Walter J
1444. Midgley Amelia
1445. Midgley Claude
1446. Midgley Guy F
1447. Midgley Jeremy J
1448. Midgley Stephanie
1449. Miles-Williams Ruhvene
1450. Miller Justin
1451. Miller P
1452. Mills David
1453. Milton-Dean Sue
1454. Minnie Liaan
1455. Mitchell Derek T
1456. Mitchell Faghrie
1457. Mitchell Inge
1458. Mitchell Nora
1459. Mitrani Leila
1460. Mjamba Themelihle
1461. Mjuleni Luyanda
1462. Mkabe Qhawekazi
1463. Mkaka Lukhanyo
1464. Mkefe Xola
1465. Mkhulise Sizwe
1466. Mkosana Joram
1467. Mkosana Jorum
1468. Mlokoti Thembelihle
1469. Mlotywa Nontsiklelelo
1470. Mmabadi Eugene
1471. Mnisi Bongani e
1472. Moeketse Dikobiso
1473. Moerat Aadiela
1474. Mohamed Ayub
1475. Mohammad A
1476. Mokolo Dineo
1477. Mokotjomela Thabiso
1478. Mokuenehi Khaka
1479. Mokwele Mapula
1480. Molale Rueben
1481. Moll Eugene J
1482. Mollmann Steven
1483. Moncrieff Glenn
1484. Monteiro Sofia
1485. Montgomery Kay
1486. Moodley Desika
1487. Moodley Kubeshanie
1488. Moolman Lizette
1489. Moolow Adelaide
1490. Mooney Conrad
1491. Morkel Augustine
1492. Morris Clive
1493. Morris Mike
1494. Morris Taryn
1495. Mortimer Garth
1496. Moseki Abram
1497. Moseneke Kganya
1498. Moses Estholene
1499. Moses Glenton
1500. Moses Godfrey
1501. Moss Helen
1502. Mossop Leighan
1503. Mostert Andra
1504. Mostert Candice
1505. Mostert D P
1506. Mostert Elana
1507. Mostert G P
1508. Mostert Heinrich

1509. Mouton Madele
1510. Mouton PLeFras
1511. Mpinga Mfundo
1512. Msengi Bulelwa
1513. Mswazi Mbulelo
1514. Mthipa Carona
1515. Mthiyane Khethokuhle
1516. Mtoko J
1517. Mtotywa Zinzile
1518. Mtuleni Vilho
1519. Mucina Ladislav
1520. Mugabe James
1521. Muhl Sara
1522. Mukundamago Mukundi
1523. Mukuya Robert
1524. Muller Halcyone
1525. Muller Miriam
1526. Muller Niel
1527. Muller Sonja
1528. Munyai Nthabeliseni
1529. Munyai Tendamudzimu
1530. Murdoch Penelope
1531. Murison Giselle
1532. Murivhami Thilivhali
1533. Murovhi Rolivhuwa
1534. Murrell Godfrey
1535. Musamy Belinda
1536. Musembari Constance
1537. Musil Charles
1538. Mustart Penny J
1539. Myataza Akho-Amava
1540. Myburg Marius
1541. Myburgh Angus
1542. Myburgh Kozette
1543. Myeza Siyabonga
1544. Myles Michelle
1545. Myrdal Brett
1546. Mzondi Nolufefe
1547. Nagan Marx-Lenn
1548. Naiker Melissa
1549. Naka Zandile
1550. Nakwa Mntambo
1551. Nanni Ingrid
1552. Napier Victoria
1553. Naran Daksha
1554. Nash Kyle
1555. Naude Francois
1556. Naude Janet
1557. Naude Minette
1558. Ndaba Phumla
1559. Ndiitwani-Nyamande Tovhowani
1560. Neethling Heinrich
1561. Neethling Johan H
1562. Neethling Karin
1563. Nel Adam
1564. Nel Deon
1565. Nel Guillaume
1566. Nel J A J
1567. Nel Jeanne
1568. Nel Lyndre
1569. Nel Pierre
1570. Nelson Bradley
1571. Nengovhela Rufus
1572. New Judy
1573. Newby Terry S
1574. Newham Melissa
1575. Newman Ethan
1576. Newman Natalie
1577. Newton David
1578. Newton Ian
1579. Ngame Sizwe
1580. Ngcakana Sydney
1581. Ngcana Mlindeli
1582. Ngcobo Nceba
1583. Ngubane Nombuso
1584. Ngubeni Ntombizodwa
1585. Nicolson Greg
1586. Niemand Barend J P
1587. Niemand Jakkie
1588. Niemand Rhenia
1589. Nieuwoudt Gerrit
1590. Nieuwoudt Heidi
1591. Nieuwoudt Henk
1592. Nieuwoudt Johan
1593. Njemla Sindisa
1594. Nkili Nzuzo
1595. Nkukwana Siyabusa
1596. Nkuna Amukelani
1597. Nndanduleni Mashudu
1598. Noffke Mandy
1599. Nolting Kristen
1600. Nomdo Juan
1601. Nongogo Unathi
1602. Noonan Kyle
1603. Norton Lucy
1604. Norton Peter M
1605. Norval Matthew
1606. Nottebrock Henning
1607. Novellie Peter
1608. November Eben
1609. November J A
1610. Nowell Megan
1611. Nowiki James
1612. Nqayi Neziswa
1613. Nsikani Mlungele
1614. Ntantiso Ludwe
1615. Ntene Mosili
1616. Nteta Onkemetse
1617. Nthejane Maboee
1618. Ntshanga Nasiphi
1619. Ntshiba Vuyiseka
1620. Ntsholo Lubabalo
1621. Ntshotsho Phumza
1622. Nuse Sisanda
1623. Nyaga Justine
1624. Nyakatya Mawethu
1625. Oberlander Kenneth
1626. O'Callaghan Mike
1627. Odendal Anton
1628. Odendal James
1629. O'Donoghue Robert
1630. Oechel Walt
1631. Oelofse Johan
1632. Oelofsen B W
1633. Oelofson B
1634. Oertel Charles
1635. Oertel Julie
1636. Oettle Noel
1637. O'Farrell Patrick
1638. Ogilvy Mark
1639. O'Grady Kathy
1640. Ojeda Fernando
1641. Olayi Vuyelwa
1642. Olderwagen Eben
1643. Olds Alexis
1644. Oliver Ian
1645. Oliver Roger
1646. Oliver Ted E G H
1647. Oliver Tessa
1648. Olivier D L
1649. Omardien Aaniyah
1650. Oosthuizen Andre
1651. Oosthuizen Mare-Liez
1652. Oosthuizen Nico
1653. Oppel Wayne
1654. Opperman Graham
1655. Oransie Jan
1656. Orban Fred
1657. Orshan G
1658. Osborne Alexis
1659. Osborne Bernadette
1660. Osborne Lorretta
1661. Osman Sue-Ellen
1662. Ozerova Liudmila
1663. Page Shaun
1664. Pagel Joern
1665. Pains Natalie
1666. Paisley Wendy
1667. Palmer Anthony
1668. Palmer Guy
1669. Palmer NG
1670. Pantsi Melekhaya
1671. Parbhoo Survana
1672. Parkar-Salie Zohra
1673. Parker Azisa
1674. Parker Ruth
1675. Parker-Allie Fatima
1676. Parkington John E
1677. Parring Shannon
1678. Parsley A
1679. Parsley R
1680. Pasquini Lorena
1681. Patel Michelle
1682. Pather-Elias Simisha
1683. Patrickson Shela
1684. Patterson Barry
1685. Paulsen Manfred
1686. Pauw Anton
1687. Pauw Johan C
1688. Payle Cyril
1689. Paymans F
1690. Pebane Mpho
1691. Pekeur Olivia
1692. Pekeur Rudi
1693. Pemberton Charles
1694. Pence Genevieve
1695. Pentz Hester
1696. Pepler D
1697. Peter Zwai
1698. Peters Adelicia
1699. Petersen Ashia
1700. Petersen Caroline
1701. Petersen CH
1702. Petersen Chantel
1703. Petersen Leif
1704. Phalanndwa Mashudu
1705. Phambaniso Patricia
1706. Pheiffer Wilfred
1707. Philindar Lisa
1708. Philip Anele George
1709. Philippon Nathalie
1710. Phillips A
1711. Phoshoko Malepo
1712. Picker Mike D
1713. Pickett GA
1714. Pienaar Bruce
1715. Pienaar Eugene
1716. Pienaar Graeme
1717. Pienaar Lizl
1718. Pierce Cowling Shirley M
1719. Pieters Wynand
1720. Pieterse Carlo
1721. Pieterse Deon
1722. Pieterse Melissa
1723. Pieterse P J
1724. Pietersen Adriaan
1725. Pietersen Allistair
1726. Pillay Deshni
1727. Pinzi Sam
1728. Piper Kieron
1729. Plaaitjie Mielile
1730. Platyi Sinethemba
1731. Plokhooy Oliver
1732. Pond Uschi
1733. Poole Caroline
1734. Poongavanum Renay
1735. Popose Gcobani
1736. Postma Anneke
1737. Potgieter Carina
1738. Potgieter Daniel
1739. Potgieter Godfrey
1740. Potter Leigh
1741. Potts Alastair
1742. Potts Reda
1743. Potts Tracey
1744. Poulsen Zoe
1745. Powell Mike
1746. Powell Robyn
1747. Powrie Fiona J
1748. Powrie Les W
1749. Pratt Brandon
1750. Present Gonald
1751. Pressinger F M
1752. Preston Guy
1753. Preston Helene
1754. Pretorius Adele
1755. Pretorius Brandon
1756. Pretorius Danie
1757. Pretorius E
1758. Pretorius Gerhard
1759. Pretorius Wessel
1760. Prins Abraham
1761. Prins Joan
1762. Prins Margaou
1763. Prins Natalie
1764. Prins Philip J

1765. Prinsloo E
1766. Prinsloo V I
1767. Privett Sean
1768. Proches Serban
1769. Prophet Matthew
1770. Prunier Rachel
1771. Pryke James
1772. Pryor Jonathan
1773. Prys-Jones R P
1774. Pullen Shireen
1775. Puren De Wet
1776. Purnell Andrew
1777. Purnell Kerry
1778. Purvis Arne
1779. Puttick G M
1780. Qongqo Axola
1781. Quma Sakhumzi
1782. Rabe Emmylou
1783. Rademan Madele
1784. Radzilani Phathutshedzo Michael
1785. Rafferty Melandri
1786. Ragaller Sven
1787. Rahlao Sebatalo
1788. Raimondo Domitilla
1789. Raitt Gwendolyn
1790. Raitt Lincoln M
1791. Rakgalakane Khensani
1792. Ralston Samantha
1793. Ramabulana Phumudzo
1794. Ramavhunga Nkhumeleni
1795. Randera-Rees Samir
1796. Range Sean
1797. Ranwashe Fhatani
1798. Rapoo Providence
1799. Raselabe Masindi
1800. Raubenheimer D
1801. Rautenbach Andre
1802. Rautenbach Therese
1803. Ravin Glenda
1804. Raxworthy Julian
1805. Rebelo Alanna
1806. Rebelo Anthony G
1807. Reddy C
1808. Reddy Nicole
1809. Redfern Linda
1810. Reece Sally
1811. Reed Cecile
1812. Reed Lozelle
1813. Reeler James
1814. Reeves Brian
1815. Reid Andrew
1816. Reinecke Karl
1817. Reinten Emmy
1818. Retief Koos
1819. Revell Grant
1820. Reynolds Terry
1821. Rheeder Christie
1822. Rheeder Jaco
1823. Rhoda Chandre
1824. Rhoda Linden
1825. Rhoda Stewart
1826. Rhode Adele
1827. Rhodes Andrew
1828. Rhodes Linden
1829. Richards Michael B
1830. Richardson Dave M
1831. Richardson Leesha
1832. Richardson Lesley Joan
1833. Richter Carl
1834. Ricketts Cassandra
1835. Riemann Kernelius
1836. Rikhotso Diba
1837. Rikhotso Miehleketo
1838. Rikhotso Ronald
1839. Rivers Nina
1840. Robertd Glen
1841. Roberts Ruben
1842. Roberts Sarien
1843. Robertse PJ
1844. Robinson Robbie
1845. Robson Liz
1846. Rode Emilia
1847. Rodger James
1848. Roets Divan
1849. Roets Francois
1850. Roets Renetta Magrieta
1851. Roets Wietsche
1852. Rogers Andrew
1853. Rogers Annabelle
1854. Rombi Sebastien
1855. Romoff M
1856. Romoff Natasha
1857. Roosenroode Taryn
1858. Ros Petra
1859. Roscher Rudolph
1860. Rosenberg Eureta
1861. Rossenrode Taryn
1862. Rossouw Andre
1863. Rossouw Deon
1864. Rossouw Nigel
1865. Rouget Mathieu
1866. Roura-Pascal Niura
1867. Rourke John P
1868. Roussouw Deon
1869. Roux Dirk
1870. Ruddock Grevel S
1871. Rugga Ita
1872. Ruiters Cornelies
1873. Ruiters E
1874. Ruiters Theunis
1875. Rusch Ursina
1876. Russell Ian
1877. Rust Renee
1878. Ruthenberg Monique
1879. Rutherford Michael C
1880. Sage Kate
1881. Sahabodien Raudhiyah
1882. Saidi Amani
1883. Saintz Galeo
1884. Salaam Wiesaal
1885. Sampson Tracy
1886. Samson Heidi
1887. Samuels Igshaan
1888. Sandberg Rory Nimmo
1889. Sandwith Trevor S
1890. Sarembock David
1891. Sass George
1892. Sass Jeffrey
1893. Saul Lee
1894. Saunders Rod
1895. Schaaf Marion
1896. Scheepers Masehly
1897. Scheltema Colyn
1898. Schippers Melanese
1899. Schlettwein C
1900. Schloms B H A
1901. Schmid Baptiste
1902. Schmidt LenaAlice
1903. Schmiedel Ute
1904. Scholes Bob
1905. Scholtz Anton
1906. Scholtz M
1907. Schoon Andre
1908. Schroder Samantha
1909. Schroeder Estee
1910. Schultz Albert
1911. Schumann Mandy
1912. Schurr Frank
1913. Schutte Kari H
1914. Schutte Vlok AnneLise
1915. Schutz Alexander
1916. Schwegler Mathia
1917. Scott Ann
1918. Scott Clyde
1919. Scott D F
1920. Scott Gill
1921. Scott Judy
1922. Scott Leonora
1923. Scott Martin
1924. Scott Mike
1925. Scott R M
1926. Sealy Judy C
1927. Seaward Mathew
1928. Sebelebele Maud
1929. Sekonya George
1930. Selikowitz Renee
1931. Selomane Odirilwe
1932. September Ernest
1933. September Jerome
1934. Seydack Armin H W
1935. Seymour Colleen
1936. Seymour David
1937. Shadung Kgaugelo
1938. Shane Michael
1939. Share Andre
1940. Sharma Gyan
1941. Sharp Colin
1942. Sharp Debbie
1943. Sharples John
1944. Sharples Justine
1945. Shaw Gavin
1946. Shaw Kevin A
1947. Shaw Nick
1948. Sheasby Cassandra
1949. Shelton Jeremy
1950. Shepherd P
1951. Sheunesu Ruwanza
1952. Shezi Sithembile
1953. Shiponeni Ndafuda
1954. Shone Patrick
1955. Shubane Mahlatse
1956. Shwana Nontobeko
1957. Sibiya Thabang
1958. Sieben Erwin
1959. Sieben Paul
1960. Siebritz Robert
1961. Siegfried W Roy
1962. Sihawu Neliswa
1963. Sikhakhane Miranda
1964. Sikhipha Livhuwani
1965. Siko Pendile
1966. Sikova Zitobile
1967. Sikundla Lwazi
1968. Silander John
1969. Silander Nancy
1970. Silberbauer Tessa
1971. Siljeur Sebastian
1972. Silvertown Jonathan
1973. Simon Hannah
1974. Simons Mark
1975. Simons Megan
1976. Simpson M J
1977. Simpson Melanie
1978. Sims-Castley Rebecca
1979. Singels Elzanne
1980. Singh Indrani
1981. Singo Christopher
1982. Sinyanha Kolisa
1983. Sipas Siqueira Sandy
1984. Sipula Inga
1985. Sitas Nadia
1986. Sithole Bongani
1987. Siyaya Jabulani
1988. Siyonwana Nomthunzi
1989. Siyotywa Nomvumiso
1990. Skarzinki Lesley
1991. Skelton Rob
1992. Skowno Andrew
1993. Slabbert Eleonore
1994. Slabbert Etienne
1995. Slabbert Paul
1996. Slamang Aisha
1997. Slamdien Sa-yeed
1998. Slater Rob
1999. Slayen Michael
2000. Slingsby Jasper
2001. Slingsby Peter
2002. Small J C
2003. Smart Mike
2004. Smart Rhett
2005. Smat Mariette
2006. Smidt Samornay
2007. Smit Jan
2008. Smit Katherine
2009. Smit Walter
2010. Smith A B
2011. Smith Adao Lindie
2012. Smith Colleen
2013. Smith Grant
2014. Smith Larissa
2015. Smith Marianna
2016. Smith Megan
2017. Smith Nadene
2018. SMITH RE
2019. Smith Richardt

2020. Smith Willem
2021. Smith-Adao Lindie
2022. Smulian T P
2023. Smuts Bool
2024. Smuts Larissa
2025. Snaddon Kate
2026. Snel Catherine
2027. Snijman Dee
2028. Snow C S
2029. Snyders Norris
2030. Snyman Darelle
2031. Snyman Dee
2032. Sofika Miranda
2033. Sokudela ZikhonaMonica
2034. Sommers Andrie
2035. Sommerville J E M
2036. Sontundo Siphelele
2037. Soomar Zyta
2038. Southey Diane
2039. Southey Kate
2040. Southwood A J
2041. Spence Kelly
2042. Spencer Craig R
2043. Spencer Keith
2044. Spoctor Manfred
2045. Sprangers Geert
2046. Spriggs Amy
2047. Stadler Werner
2048. Stafford Di L
2049. Stafford Louise
2050. Stander Melissa
2051. Stanvliet Ruida
2052. Stanway Rosanne
2053. Stassen Jobre
2054. Steenhuisen Sandy-Lynn
2055. Steenkamp Arlene
2056. Steenkamp Charl
2057. Steenkamp M
2058. Steenkamp Pieter
2059. Steinberg Adrie
2060. Stephen Iain
2061. Stevens Desmond
2062. Stevens Meagan
2063. Stevens Nicola
2064. Steward Di
2065. Stewart B A
2066. Stewart Warrick
2067. Steyn Francis
2068. Steyn Leon
2069. Steyn Susan
2070. Steyn Thys
2071. Steyn Tracey
2072. Stfford William
2073. Stock William D
2074. Stoffels Barry
2075. Stokes C J
2076. Stoltsz Carl
2077. Stoltz Marinus
2078. Strauss Paula
2079. Striker R F
2080. Stritch John Matthew
2081. Struwig A
2082. Strydom A A J
2083. Strydom Matthys
2084. Strydom Wilma
2085. Stuart Charles
2086. Stuart T
2087. Sugden JM
2088. Susman Sophie
2089. Sutton Tim
2090. Swain Sue
2091. Swanepoel Ben
2092. Swanepoel Danie
2093. Swanepoel Karin
2094. Swanepoel Rikus
2095. Swanepoel Robin
2096. Swanepoel Willemien
2097. Swanevelder Hennie
2098. Swapi Nandipa
2099. Swart Arnold
2100. Swart Johan
2101. Swarthout Debbie
2102. Swarthout Greg
2103. Swartland Donovan
2104. Swarts Nicolaas
2105. Swartz Desiree
2106. Swartz Nikita
2107. Symington Yzelle
2108. Szoke Jonathan
2109. Szoke Tim
2110. Tabata Wilken
2111. Tafeni Mfundo
2112. Tainton Neil M
2113. Taute Theo
2114. Taute Theodore
2115. Tawse Wendy
2116. Taylor Basil
2117. Taylor Geoff
2118. Taylor Hugh C
2119. Taylor Joanne
2120. Taylor M
2121. Taylor Robert
2122. Terblance Neil
2123. Tererai Farai
2124. TeRoller Kerry
2125. Tethu Nomzi
2126. Thanyani Jimmy
2127. Theron A A
2128. Theron Genevieve
2129. Theron J M
2130. Theron Lief
2131. Theron Natalie
2132. Theron Sarel
2133. Thobela Nandipha
2134. Thom Quintus
2135. Thomas Bernadine
2136. Thomas S
2137. Thompson Aileen
2138. Thompson Genevieve
2139. Thompson M W
2140. Thomsen Russell
2141. Thomson Hayley-May
2142. Thorn Jessica
2143. Thwala Nompumelelo
2144. Thwala Phumela
2145. Thwala Xolani
2146. Timmins Tracy
2147. Titus Shamley
2148. Titus Ursula
2149. Todd Simon
2150. Toefy Zaahir
2151. Toefy Zaidah
2152. Tolley Krystal
2153. Tonkie Jacqueline
2154. Torpsch Cornelia
2155. Toua Adele
2156. Tovhowani Ndittwani
2157. Trethowan Jenni
2158. Treurnicht Martina
2159. Trout Amy
2160. Truter Caroline
2161. Truter Liane
2162. Tsengwa N
2163. Tshivhase Tshishovho
2164. Tucker Colin
2165. Tucker K
2166. Tucker Victoria
2167. Tukker Jean
2168. Turikumwe Fabrice
2169. Turner Andrew
2170. Turner Ross
2171. Turner Sophia
2172. Turpie Jane
2173. Tutu Siviwe
2174. Tyagana Nosipho
2175. Tyali Thembimkosi
2176. Uithaler Eldrid
2177. Umtwa Gerrit
2178. Uys Charmaine
2179. Uys Jaco
2180. Vaas Jacobus
2181. vanBiljon Georgina
2182. vanBiljon Johan
2183. vanBiljon Johann
2184. vanBlerk Justin
2185. vanBlommestein Bevan
2186. vanBoom Eldon Mornay
2187. vanBoven Henry
2188. vanBreda Laurenda
2189. vanCauter A N
2190. vanColler Alan
2191. vanColler U L
2192. Vandayar Melanie
2193. vandenBerg Crecilda
2194. vandenBrock Dieter
2195. vanderBerg Angelique
2196. vanderBurg Melissa
2197. vanderColff Dewidine
2198. vanderHeyden Francois
2199. vanderKooy F
2200. vanderLaan Corey
2201. vanderMerwe Albert
2202. vanderMerwe Carel
2203. vanderMerwe Enid
2204. vanderMerwe Esna
2205. vanderMerwe Jacqueline
2206. vanderMerwe Jacques
2207. vanderMerwe S W
2208. vanderMerwe Susara
2209. vanderMerwe Toinette
2210. vanderPoll Bill
2211. vanderStoep Hanneen
2212. vanderVyfer Janet
2213. vanderVyver Lizette
2214. vanderVyver Lourentia
2215. vanderWaal Bennie
2216. vanderWalt Divan
2217. vanderWalt J P L
2218. vanderWalt Lucretia
2219. vanderWalt Riaan
2220. vanderWalt Wikus
2221. vanderWesthuizen Helene
2222. vanderWesthuizen M
2223. vanderWesthuizen Therese
2224. vanderWesthuizen Tinnie
2225. vanDeventer C J
2226. vanDeventer Collette
2227. vanDeventer Gerhard
2228. vandeVenter H A
2229. vanDeventer Jaco
2230. vanDyk Louis
2231. VanEeden Deon
2232. vanEeden Frans
2233. vanEyck Sandra
2234. vanHeerden F
2235. vanHeerden Marie
2236. vanHeerden Tania
2237. vanHelsdingen Pam
2238. vanHensbergen Bertie
2239. vanNiekerk Ilze
2240. vanNiekerk Maresa
2241. vanNiekerk Mark
2242. vanNiekerk Sandy
2243. vanNieuwenhuizen Diekie
2244. vanNoie Arnelle
2245. vanReenen C A
2246. vanRensburg Jacques
2247. vanRooyen Theo
2248. vanRoss Granville
2249. vanSchalkwyk Naomi
2250. VanSchalkwyk Neville
2251. vanStaden Ben
2252. vanStaden Hannelouw
2253. vanTeylingen Karen
2254. vanTonder H
2255. vanWarmelo Wouter
2256. vanWeele Gerrard
2257. vanWijk Yvette
2258. vanWilgen Brian W
2259. vanWilgen Nicola
2260. vanWyk Ben-Erik
2261. vanWyk Danie B
2262. vanWyk Ernita
2263. vanWyk Joe
2264. vanWyk Leaza
2265. vanWyk Louis
2266. vanWyk Monique
2267. vanWyk Quinton
2268. vanZyl A P
2269. vanZyl Braham
2270. vanZyl Carika
2271. vanZyl Hugo
2272. vanZyl Jaco
2273. vanZyl Liezel
2274. vanZyl Petrus C
2275. VanZyl Piet

2276. Veldtman Antoinette
2277. Veldtman Ruan
2278. Velembo Sisanda
2279. Venter Carli
2280. Venter Jaco
2281. Venter Suzy
2282. Venter Talitha
2283. Venturi Fabio
2284. Verbeeck Luca
2285. Verboom Tony
2286. Vermeulen Andre
2287. Vermeulen Cobri
2288. Vermeulen Hildegaard
2289. Vermeulen Wessel J
2290. Versfeld Dirk B
2291. Victor Janine
2292. Viljoen A
2293. Viljoen Cherise
2294. Viljoen Peter
2295. Visagie Alicia
2296. Visser Jacobus
2297. Visser Nelmarie
2298. Visser Richard
2299. Visser Vernon
2300. Viviers Mike
2301. Vlok Aneri
2302. Vlok Helanya
2303. Vlok Jan H J
2304. Vlok Marius
2305. Voges Kasey
2306. Voget Caroline
2307. Voigt Werner
2308. vonBroembsen S L
2309. vonGunten Andrea
2310. vonHase Amrei
2311. vonKaschke O M
2312. vonMaltitz Graham
2313. VonStaden Lize
2314. vonWillert D J
2315. vonWitt Caitlin
2316. Vosse Shelly
2317. Vrdojlak Sven
2318. Vromans Deborah
2319. Vroom Kathryn
2320. Waddilove David
2321. Wade Charl
2322. Wagner Carol
2323. Wagner Lisitien
2324. Wahl Maritz J
2325. Wall Karen
2326. Waller Lauren
2327. Waller Penelope
2328. Walmsley Danny
2329. Walsh Martin
2330. Walters Amy
2331. Walters C M
2332. Walters Lewine
2333. Walters M C
2334. Walters M M
2335. Walton Benjamin
2336. Wand S
2337. Wannenburgh Andrew
2338. Warrington Staci
2339. Waso G J
2340. Wasserman Janis
2341. Weatherall-Thomas Clayton
2342. Webb S
2343. Webber Melanie
2344. Weel Sylvia
2345. Weerts M R
2346. Weideman Melita
2347. Weighill Ben
2348. Weighill Benjamin
2349. Weilbach D
2350. Weinberg C P
2351. Weinberg Pierre
2352. Welgemoed Zelda
2353. Wellemse D G
2354. Wells M
2355. Welsford Megan
2356. Welz Adam
2357. Wepener Jason
2358. Wessels Leandi
2359. Wessels Louise
2360. Wessels N
2361. Wessels Nadia G
2362. Wessels Nigel
2363. West Adam G
2364. West Andrew
2365. West Simon
2366. Wester Petra
2367. Wheeler Alan
2368. Wheeler Anita
2369. Wheeler Marius
2370. Whitaker Kelley
2371. Whitcher Caroline
2372. White Tess
2373. Whitehead Kellyn
2374. Whitelaw Dave
2375. Whitelaw Sue
2376. Whiting Roland
2377. Wienand Karen
2378. Wiese Hannes
2379. Wigley Benjamin
2380. Wiley J W E
2381. Willan K
2382. Williams Bronwen
2383. Williams Graeme
2384. Williams L
2385. Williams Lesley-Ann
2386. Williams Lorraine
2387. Williams Nashreen
2388. Williams Samantha
2389. Williams Tanisha
2390. Williams Tony
2391. Willman Victoria
2392. Willoughby Selwyn
2393. Wilman Victoria
2394. Wilmot Mark
2395. Wilson Adam
2396. Wilson H D
2397. Wilson John P
2398. Wilson Natasha
2399. Wilson P Angus S
2400. Wilton P
2401. Windvogel Clinton
2402. Winter Kevin
2403. Winter Sue
2404. Winterton Debbie
2405. Wirth Kathryn
2406. Wisani Fumanekile
2407. Wise Anthony
2408. Wissel C
2409. Wistebaar Nokothula
2410. Witbooi Jonas
2411. Witbooi Sydney
2412. Witboooi Johny
2413. Withers Aubrey
2414. Witkowski Ed T F
2415. Witt A
2416. Witteridge Hayley-May
2417. Witthuhn Corli
2418. Wittridge Owen
2419. Wolfaardt Anton
2420. Wolmarans Cecilia
2421. Wood Alan
2422. Wood Carla
2423. Wood Julia
2424. Woodford Darragh
2425. Wooding Bernard
2426. Woodvine F
2427. Worth Zulaiga
2428. Wright Dale
2429. Wright Gerald E P
2430. Wright Helen
2431. Wright M G
2432. Wright Samantha
2433. Wyngaardt Justine
2434. Xaba Phakamani
2435. Xaba Toni
2436. Xayimpi Onke
2437. Xhegwana Phunyuzwa
2438. Yalezo Nomfezeko
2439. Yeld John
2440. Yelenik Stephanie
2441. Young Shona
2442. Younge-Hayes Amanda
2443. Zachariades Costas
2444. Zaloumis Nicholas
2445. Zazu Clayton
2446. Zeeman H T
2447. ZeemanMadre
2448. Zemva Sylvia
2449. Zenze Khuphumla
2450. Zietsman Johlene
2451. Zikishe Vathiswa
2452. Zimmerman Helmuth
2453. Zoeller Kim
2454. Zwinkels Marijn
2455. Zylstra Matthew

OBITUARIES

During the life of the Fynbos Network, many stalwarts have passed on. The few recognised here were formally acknowledged during one of the annual meetings.

Sean Privett

Hugh Taylor

20 January 1925 – 6 July 1999

Hugh Taylor was profoundly influenced by his parents: Colin was a composer, while Doris was instrumental in ensuring that Cape Point became a nature reserve. Hugh had a great love for music and became an averred naturalist at a young age. On leaving school, Hugh did a degree in forestry and then, from 1949 to 1960, worked for the Department of Forestry. He had a passion for plants and became an exceptional botanist. Although a shy person, he mentored and inspired many young botanists. In the 1960s, he undertook a detailed vegetation study at Cape Point. Recognising the value of long-term monitoring, he marked out the 103 plots permanently. This study was sufficiently detailed that it has been possible to repeat it twice since then, and it has provided the longest running set of vegetation plot data in the country.

Karen Esler

Francois van der Heyden

April 1962 – 10 April 2000

Francois van der Heyden had exceptional qualities and a great love of life. People who interacted with him will remember his spontaneous smiles and infectious laughter. Academically gifted, he rose rapidly through the ranks and was awarded his PhD from UCT at the age of 27. At UCT, Francois' focus was on plant form and function in the fynbos and karoo. Francois trained many students, exposing them not only to botany but also to a changing world that was free of apartheid prejudices, becoming an important role model. From UCT, he moved to the Agricultural Research Council and finally the CSIR. He frequently said that he had found his niche there, using his talents in academic research, technical planning and project management. Francois also played a pivotal role in the transformation process at the CSIR. He was an assistant editor of the African Journal of Range and Forage Science (from Feb 1983 to Feb 1997) and was integrally involved in CAPE. On his death, the CAPE Strategy as well as an issue of the journal were both dedicated to him.

CapeNature archives

Chris Burgers

11 January 1952 – 10 May 2002

With Chris Burgers' passing, Cape Nature Conservation, and fynbos conservation in general, lost one of its greatest assets. Chris Burgers started as young botanist with Cape Nature Conservation in 1976 and quickly built up a reputation as a no-nonsense, straight-thinking conservation scientist. In a letter to a colleague, he mentioned that the plight of the Marsh Rose on Maanschynkop had convinced him that nature conservation was the route he would take, and he travelled this road with conviction and principle. In 1996, Chris received the Cape Times Centenary Award for outstanding achievements in the field of nature conservation, and the Cape Times hailed him as the "unsung hero of nature conservation in the Western Cape." Chris was also awarded a "Green Trust" certificate from Kader Asmal for his contribution to the science behind Working for Water.

Colin Paterson-Jones

Elsie Esterhuysen

11 April 1912 – 1 January 2006

Elsie Esterhuysen was "the most outstanding collector ever of South African flora," amassing some 36,000 herbarium specimens in her lifetime. She started working in 1936 for the McGregor Museum in Kimberley, and in 1938, she moved to work at the Bolus Herbarium at UCT. Here, she assisted many UCT students over the years (including the second author of this book), helping them in the herbarium. A capable mountaineer, she focused on collecting high altitude plants and discovered about 150 taxa. Approximately 34 species and two genera are named after her. In 1984, she discovered the *Protea nubigena*, the very rare Cloud Protea, in just one high altitude site. In 1989, she was awarded an honorary MSc degree by UCT. Elsie's work was an inspiring foundation for SANBI's threatened plant species programme and CREW.

Maryke Middelmann

Walter Middelmann

7 February 1910 - 6 December 2006

Walter Middelmann left Germany in 1936 and travelled to South Africa where he met Ruth, also recently arrived from Germany. Both had been unable to live under Hitler's regime. Walter and Ruth became captivated with the local flora and soon joined Edith Stephens in the Natural History Club. In 1947, they bought Honingklip farm on the mountainside above Botrivier Valley, near the Botrivier Lagoon. Here they both discovered a passion for working with nature. Many years later, a large section of their farm was proclaimed a nature reserve and named the "RuWaMi" in their honour. Ruth pioneered selling fresh flowers to florists in Cape Town and seeds internationally. When the government opposed the seed sales, Walter motivated for the establishment of the SA Wildflower Growers Association (SAWGRA) in 1965, which later became SAPPEX. Walter became very involved in the Fynbos Forum, Kirstenbosch and the Botanical Society, earning a gold medal for his work on the positive link between conservation and utilisation. Walter was probably best known for his intervention in the dried flower industry. Walter was fascinated by the Cape flora and was a Fynbos Forum stalwart, remaining actively involved until he died.

Plant Conservation Unit archives

Theo Manuel

1967 — 17 January 2008

Theo Manuel suffered a severe spinal injury as a child and had many physical challenges to overcome. However, he made a significant contribution to conservation in the Western Cape and was a role model to many both in the field and in his broader community. Initially, Theo taught Maths, Biology and Science at secondary school level and he later became an educational consultant. This position allowed him to travel both in South Africa and internationally. He became interested in the potential for poor communities to use and benefit from conservation sites, and after ten years of research with the community bordering the Wolfgat Nature Reserve, he obtained his PhD in 2006. He worked during this time as a Catchment Manager for Working for Water. In 2006, he won the CAPE Conservation Award for his services to biodiversity conservation in the Cape Floristic Region. Theo always had a smile on his face and enjoyed connecting with colleagues at the annual Fynbos Forum. His untimely and tragic death was a great loss to conservation and to his community. A number of his friends and colleagues honoured him by creating an annual award, presented at the Fynbos Forum (See box 5.4)

Richard Cowling

Researchers outside Diane Durrant's cottage

Diane Durrant

1921 — 2009

Diana Durrant was recognised at the 2009 conference by Richard Cowling for her unique contribution to conservation.

Diane and her husband Robert, a politician, moved permanently to Springfield, an historic farm in the Strandveld, near Cape Agulhas, in the late 1970s. She was passionate about the Cape flora, which she loved to paint in vivid cheerful colours, and she was always very supportive of biologists travelling through the Agulhas area, generously offering excellent company, meals and accommodation in her delightfully restored 18th century dwellings. She supported all conservation efforts in the Agulhas area and the Springfield property now forms part of the core Agulhas National Park.

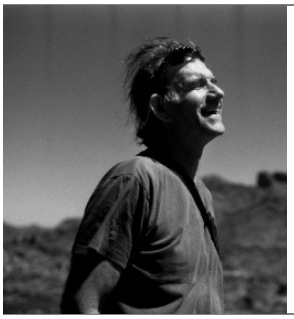
Brian van Wilgen

Fred Kruger

9 March 1944 – 20 May 2017

Fred Kruger was a director of the South African Forestry Research Institute before joining the CSIR. He worked initially under the guidance of Christiaan Wicht and played an important role in the Fynbos Biome Project. Fred was an innovative researcher and naturalist who loved the outdoors, especially fly-fishing and hiking. He was interviewed extensively for this book before he died. Chapter 2 details many of his exceptional contributions to fynbos ecology. Dave le Maitre describes Fred as having "the most incisive and interrogative scientific mind I have experienced."

Fred's presentation on fynbos at the Medecos symposium in California in 1977 was instrumental in prompting scientists such as Hal Mooney and Phil Miller to hold the 1981 Medecos meeting in South Africa, at which Fred contributed again. His interests were broad and he wrote papers on biomass and conservation, contributed chapters to the Heathlands of the World series, wrote on fire in South African ecosystems and on invasion by pines. His presentations and writing were full of insights and new ideas that were frequently only developed later by others. He influenced the careers of many of today's leaders in ecology, among them William Bond, Dave Richardson, Brian van Wilgen, Pat Manders, Bob Scholes, Sue Milton, Coert Geldenhuys, Jeremy Midgley, David Le Maitre, Jan Bosch, Colin Everson and Peter Dye.



Mike Low

Barrie Low

21 February 1952 – 25 May 2018

Barrie Low was a passionate ecologist, botanist, hiker, musician, photographer and … the list goes on. He was also a prominent member of the fynbos community, holding many positions including board member and director of the West Coast Biosphere Reserve; chair of WESSA, Western Cape; council member of Botsoc; and chair of the Conservation Committee of the South African Association of Botanists. He worked for NBI (now SANBI), lectured at UWC and consulted—setting up and running Coastec. He attended the Fynbos Forum regularly over many years, contributing to many sessions and workshops. Barrie had an enormous love of life and an exuberance that affected the people around him. This was particularly true of the volunteer group of enthusiastic ecologists (the Riversdancers) who sampled rivers across the Western Cape. On one of his many adventures, Barrie discovered a new species of Aloe that was later named *Aloe kouebokkeveldensis*.

Jacques van der Merwe

Stephen Cousins

2 November 1986 – 16 June 2018

The gentle life of Stephen Cousins, a renosterveld champion supreme, was lost tragically in a car accident. Stephen, a recipient of a Fynbos Forum Innovation Scholarship (2016–2017), was a PhD student in the Department of Conservation Ecology & Entomology at Stellenbosch University. He had just been on a writing retreat to finalise a chapter of his PhD on the restoration potential of degraded renosterveld. This was work he was really excited about sharing. Things were looking up for him: after battling to find funding, he had just been awarded a Rufford Small Grant to continue with his applied research on the management and restoration of renosterveld. He was planning to write a book on the ecology, conservation and restoration of this special and diverse vegetation type. He wanted to reach even more people than his social media outreach already did: his Facebook page, Swartland Botanics, focused conservation attention on renosterveld and was a delightful resource with a following of 1200. In addition to being a renosterveld champion, he was a talented musician.

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