



# INVASIVE ALIEN SPECIES **Strategy**

## GREATER CAPE FLORISTIC REGION

**JUNE 2009**

# 1. Foreword

The Cape Floristic Region (CFR) has the dubious distinction of being probably the most severely invaded region of South Africa. Invasive alien plants (mainly trees and shrubs) have run rampant over fynbos-clad mountains, and have choked most of our rivers. On the lowlands, too, Australian wattles and other unwelcome invaders threaten many species with extinction and disrupt ecosystem functioning, with serious consequences for our natural capital. Alien animals also cause big problems. Biological invasions interact with other stressors, such as poor land management and pollution, and, with numerous other factors related to human activity, degrade our region.

For decades, biological invasions in the CFR have been the focus of intense research, and substantial, multifaceted management initiatives are underway. The world-famous Working for Water programme, initiated in 1995, breathed new life into attempts to manage invasive species in the CFR and throughout South Africa. Despite the successes of this initiative the problems are immense, and it is questionable whether the huge investment of effort and resources on managing invasive species is really reducing the problem.

Effective management of biological invasions must address key issues at a range of scales in space and time. Local-scale efforts to remove or reduce the abundance of particular species, or to reduce their harmful effects, are crucial. But, such initiatives can only be successful when embedded within systematic management plans at the scale of landscapes, regions, and countries. This is because they require sustained funding and political support; rely on institutional arrangements and guidance from scientists, and need to operate within policy and legal frameworks. A sustainable strategy for dealing with invasions must also accommodate requirements for dealing with well-established, widespread and emerging invaders, and must have the means to prevent the introduction of new species which have a high risk of invading. Too little emphasis is currently placed on prevention and rapid response to deal with invasive species at the early stages of invasions. Much more basic research is needed to equip authorities to implement sensible and sustainable actions.

The human dimension of invasions is crucial. Humans cause invasions, humans perceive invasions, and humans must decide whether, when, where and how to manage invasions. Humans must decide how much importance to place on intact ecosystems to safeguard our natural capital into the future.

The problems associated with biological invasions are bewilderingly complex and need to be tackled on many fronts – in a coordinated fashion. Hence the urgent need for the *CAPE Invasive Alien Species Strategy*.

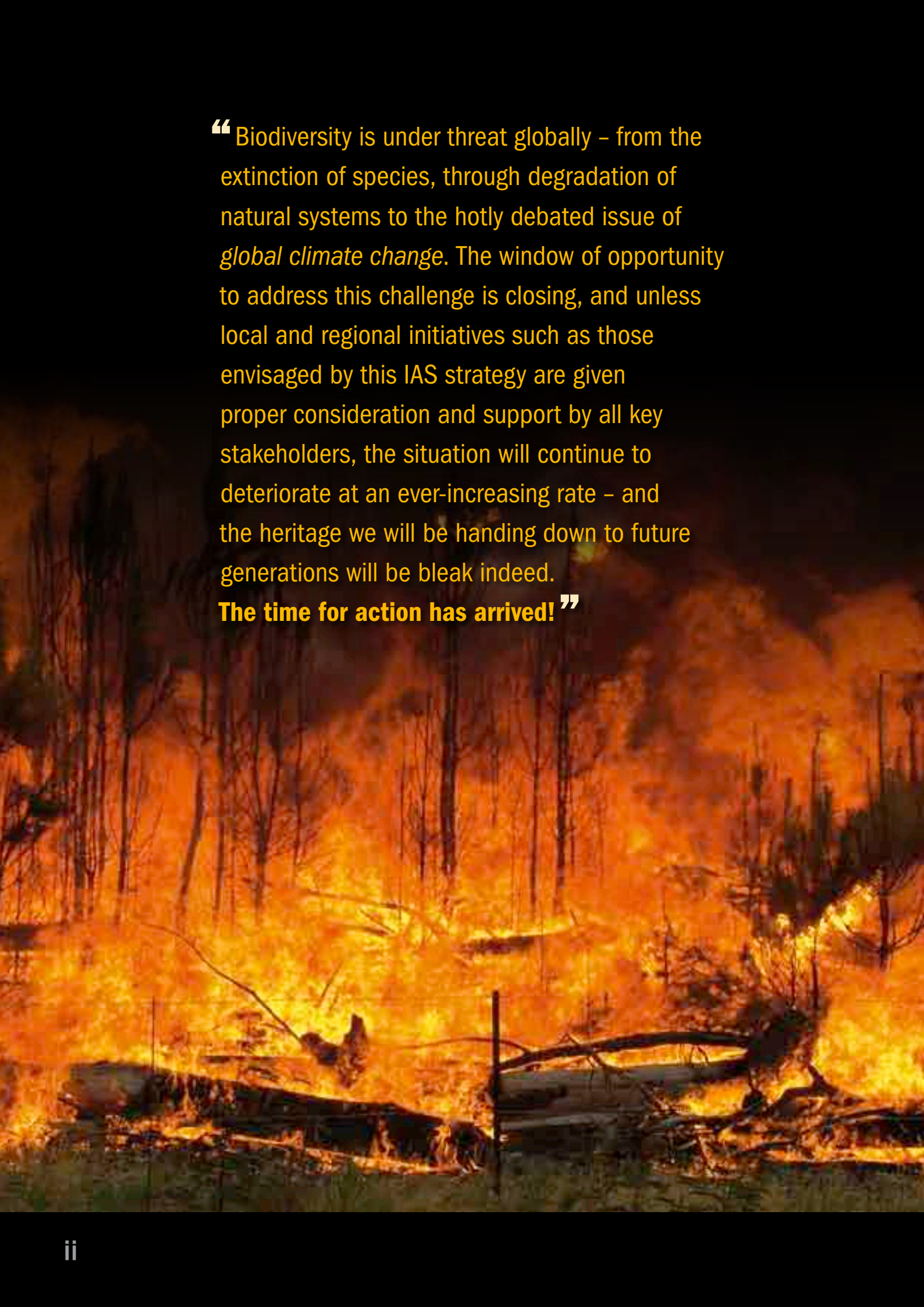
The strategy provides the roadmap required to radically improve the way we approach the management of invasive alien species in the CFR. It proposes a bold vision, details the key challenges that need to be overcome, and defines objective goals, strategic interventions and desired outcomes. I am excited by the opportunities provided by the strategy. I wholeheartedly endorse it and encourage all stakeholders to participate to ensure that its bold objectives are achieved.

David M. Richardson  
Deputy Director: Science Strategy  
Centre for Invasion Biology  
Stellenbosch University



Prof. Dave Richardson, Deputy  
Director, Centre for Invasion  
Biology





“ Biodiversity is under threat globally – from the extinction of species, through degradation of natural systems to the hotly debated issue of *global climate change*. The window of opportunity to address this challenge is closing, and unless local and regional initiatives such as those envisaged by this IAS strategy are given proper consideration and support by all key stakeholders, the situation will continue to deteriorate at an ever-increasing rate – and the heritage we will be handing down to future generations will be bleak indeed.

**The time for action has arrived! ”**

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# INVASIVE ALIEN SPECIES STRATEGY for the Greater Cape Floristic Region



## 2. Introduction

### 2.1 Invasive Alien Species Strategy for the Greater Cape Floristic Region

This Invasive Alien Species Strategy for the Greater Cape Floristic Region falls under Component 6 – integrating biodiversity concerns into watershed management – of the CAPE Programme. It is therefore important to have a brief understanding of the CAPE Programme in order to provide context for the strategy. This overview follows in 2.2.

### 2.2 Introducing the Cape Action for People and the Environment Programme (CAPE)

South Africa is in a unique position in that it is classified as one of the top three biodiverse countries in the world. Of the nine biomes in South Africa (the Fynbos, the Succulent Karoo, the Desert, the Nama-Karoo, the Grassland, the Savanna, the Albany Thicket, the Indian Ocean Coastal Belt and the Forest Biomes), three of them – the Fynbos, Albany Thicket and the Succulent Karoo – are recognised as three of the world’s 34 Biodiversity Hotspots. This means that the level of endemism in the terrestrial biodiversity is unique and very high, while at the same time, the level of environmental pressure of such a nature that these regions warrant special protection.

Further, South Africa is home to the unique Cape Floristic Region which is not only the smallest, but also the most threatened, of the world’s six plant kingdoms. This situation places a responsibility on conservation agencies of the Northern, Western and Eastern Cape Provinces to protect, conserve and manage the exceptional biodiversity of this region in cooperation with the people of the region.

The Cape Action for People and the Environment (CAPE) is South Africa’s innovative strategic programme to conserve the Cape Floristic Region. Based on the CAPE 2000 strategy, it is a systematic conservation plan prepared with the assistance of the Global Environmental Facility and the World Bank, and is adopted and supported by the South African Government. The CAPE strategy analysed the state of conservation of the region’s biodiversity and the factors that threaten it, and identified several strategic interventions to address the key constraints and opportunities towards achieving conservation and sustainable economic development in the region.

CAPE is using an “ecosystem approach” which recognises that ecosystems are not bound by human definitions, laws and management regimes, and that factors impacting on ecosystems can operate at extremely large scale, for example the effects of climate change and habitat transformation. It emphasises the fact that to achieve effective conservation, linkages (such as mountains, lowlands, rivers, wetlands and oceans) between the different elements of the landscape are required. It underlines the fact that conservation depends on working effectively

with institutions, markets, development opportunities, people and the political systems in the region.

The CAPE strategy has three themes, that is:

- **conserving biodiversity in priority areas** by strengthening on- and off-reserve conservation and supporting bioregional planning
- **using resources sustainably** through conserving natural resources in catchments, improving the sustainability of harvesting and promoting sustainable nature-based tourism, and
- **strengthening institutions and governance** through strengthening institutions and extensive stakeholder involvement, through enhancing governance and by promoting community involvement.

At its basis, the CAPE strategy has, as its aim, the mainstreaming or internalization of biodiversity conservation and principles and the sustainable use of natural resources into all aspects of human behaviour.

The CAPE message is clear: building the biodiversity economy by unleashing the potential of protected areas, promoting conservation stewardship and mainstreaming biodiversity in productive areas, and recognising that biodiversity underpins the economy of the region and the livelihoods of its people.

Several government and non-government institutions are signatories to and implementers of the Cape Action Plan, and strategic and cooperative governance is achieved through a series of structures such as Project Task Teams, the Cape Coordination Unit and the CAPE Implementation Committee.

If you want to have more information on the Cape Action Plan, please visit their website at [www.capeaction.org.za](http://www.capeaction.org.za) or send them an email at [info@capeaction.org.za](mailto:info@capeaction.org.za)

**E.H.W. Baard**  
**CapeNature**



Sharp-tooth Catfish

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Small-mouth Bass

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# 3.

# Executive Summary

## 3.1 Background

Invasive Alien Species (IAS) in their many forms have severe, detrimental economic and ecological effects and the extent of these is only beginning to be appreciated by economists and policy makers. Plant invasions alter ecosystems, as well as important natural processes such as fire frequency, nutrient cycling, erosion, hydrologic cycles and sediment deposition, which, in turn, result in significant negative environmental, and therefore socio-economic impacts – for both current and future generations.

### THE ENVIRONMENT

Inextricably linked to economic and social welfare

“If we give our very best to all the children of today, and if we pass on our planet in the fullness of her beauty and natural richness, we will be serving the children of the future.”

Nelson R Mandela in  
*Towards Gondwana Alive, 2001*

This situation is well researched and documented, and is generally accepted by experts in the field as having reached crisis proportions. Despite various initiatives to address the challenges presented by IAS, such as the Working for Water programme referred to by Professor Richardson in the Foreword, the situation continues to worsen mainly as a result of:

- fragmented, uncoordinated and often poorly informed efforts
- lack of technical insight by many of the personnel managing and leading the initiatives
- poor priority setting
- insufficient sustainable implementation capacity
- inadequate early detection and rapid response capacity
- lack of awareness by key stakeholders and the general public.

In response to this crisis situation, the Global Environmental Facility (GEF) approved a grant to CapeNature to develop a strategy for IAS management in the Cape Floristic Region, as part of CAPE Component 6: integrating biodiversity concerns into watershed management.

Since then, the strategy development process has taken the form of stakeholder workshops under the aegis of the CAPE IAS Task Team. The aim of the workshops was to obtain stakeholder agreement on, and buy-in into, the principles, goals and objectives for an overarching strategy that could successfully address the many and varied challenges in the field of IAS management in this region. A series of workshops was held involving experts and managers from key institutions involved in IAS management (both plant and animal).



Clearing Port Jackson

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## THE IAS STRATEGY

Developed through extensive stakeholder consultation

On the basis of all these inputs, a draft strategy was formulated and distributed for comment to a wider audience in November 2007. Comments received have been incorporated into this strategy document.

### 3.2 Structuring for success

The development of the IAS strategy has followed a rigorous process over the last four years, during which time detailed planning and numerous interventions have occurred. Further detail is provided in Section 7.

The key challenge now is to structure the implementation and ongoing development of the IAS strategy in a manner that will successfully address the growing IAS challenges in an effective and sustainable manner.

Accordingly, emphasis has been placed on designing an organizational structure – detailed in Section 7 – that is most likely to ensure the successful implementation of the IAS strategy.

The key objectives of the proposed structure are:

- recognition of the key role the various implementation agencies have played (and still need to play) if the IAS strategy is to succeed
- provision of strong, integrated leadership
- provision of specialized coordination and support
- integration and coordination of the research, and the strategic input of the various specialist scientific organizations.

“It is vitally important that the efforts of these implementation agencies should be aligned and coordinated - and that proper attention is given to priority setting within the various taxa.”



Integrated control measures may involve the use of registered herbicides to control invasive plants

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Clearing Blue Gum in the Berg  
River Catchment © LOUISE STAFFORD

### 3.3 Communicating for success

There is no doubt that in many levels of society there is little or no real appreciation of the extent of the ecological and economic threats posed by IAS. Of greater concern is the fact that this lack of insight occurs in many areas of national, provincial and local government, resulting, at times, in the down-scaling of the 'IAS issue' to a level where neither the priority nor the capacity is considered important in relation to other issues. This situation can only be addressed through a vigorous and sustained communication effort as a key part of this strategy.





### 3.4 Investing for the future

The success of this strategy will depend on the availability of very significant funding. The grant provided by GEF, while sufficient to initiate the development of this strategy and to mobilise some of the initial interventions, will not be nearly sufficient to successfully meet the challenges presented by IAS. Over the next decade, funding for research and capacity building will be very significant, as will be the demand for other resource requirements. The strategy will demand billions of rands. This will be a primary challenge for the steering committee.

“Biodiversity is under threat globally – from the extinction of species, through degradation of natural systems to the hotly debated issue of *global climate change*. The window of opportunity to address this challenge is closing, and unless local and regional initiatives such as those envisaged by this IAS strategy are given proper consideration and support by all key stakeholders, the situation will continue to deteriorate at an ever-increasing rate – and the heritage we will be handing down to future generations will be bleak indeed.

**The time for action has arrived!”**





## 4.

# Vision Statements: *striving for alignment...*

Under the auspices of CAPE, the overall vision for biodiversity management in the Western Cape is as follows:

**“By the year 2020, the natural environment and the biodiversity of the CFR will be effectively conserved and/or restored wherever appropriate, and will deliver benefits to the people of the region in a way that is embraced by local communities, endorsed by government and recognized internationally.”**

In support of this overall vision, this IAS strategy proposes the following vision:

**“By 2020, the negative impacts of Invasive Alien Species on the Greater Cape Floristic Region’s economic, ecological and social assets will have been significantly reduced; no further indigenous species will have been allowed to be driven to extinction by IAS, and sustainable programmes will be in place so as to minimise impacts in the future.”**



# 5.

## Scope: *striving for balance ...*

The current strategy in place is undoubtedly biased towards terrestrial ecosystems, as well as to Invasive Alien Plants (IAPs) invading these ecosystems. This bias is a result of the historical reality that IAP invasions in terrestrial ecosystems have been considered to have, by far, the greatest ecological and economic impacts in the Greater CFR and, as a result, have enjoyed the lion's share of IAS research and management attention.

“It is a long-term aim of the new strategy to treat IAS and other taxonomic groups evenly across all ecosystems, including freshwater and marine.”

This is the primary reason for having structured the two IAS Teams – Plants and Animals – as discussed in the Executive Summary.

The Greater CFR is contained largely within the boundaries of Western Cape. This strategy will strive to ensure that the benefits will be felt throughout the region – and will be available to assist stakeholders in the Greater CFR.

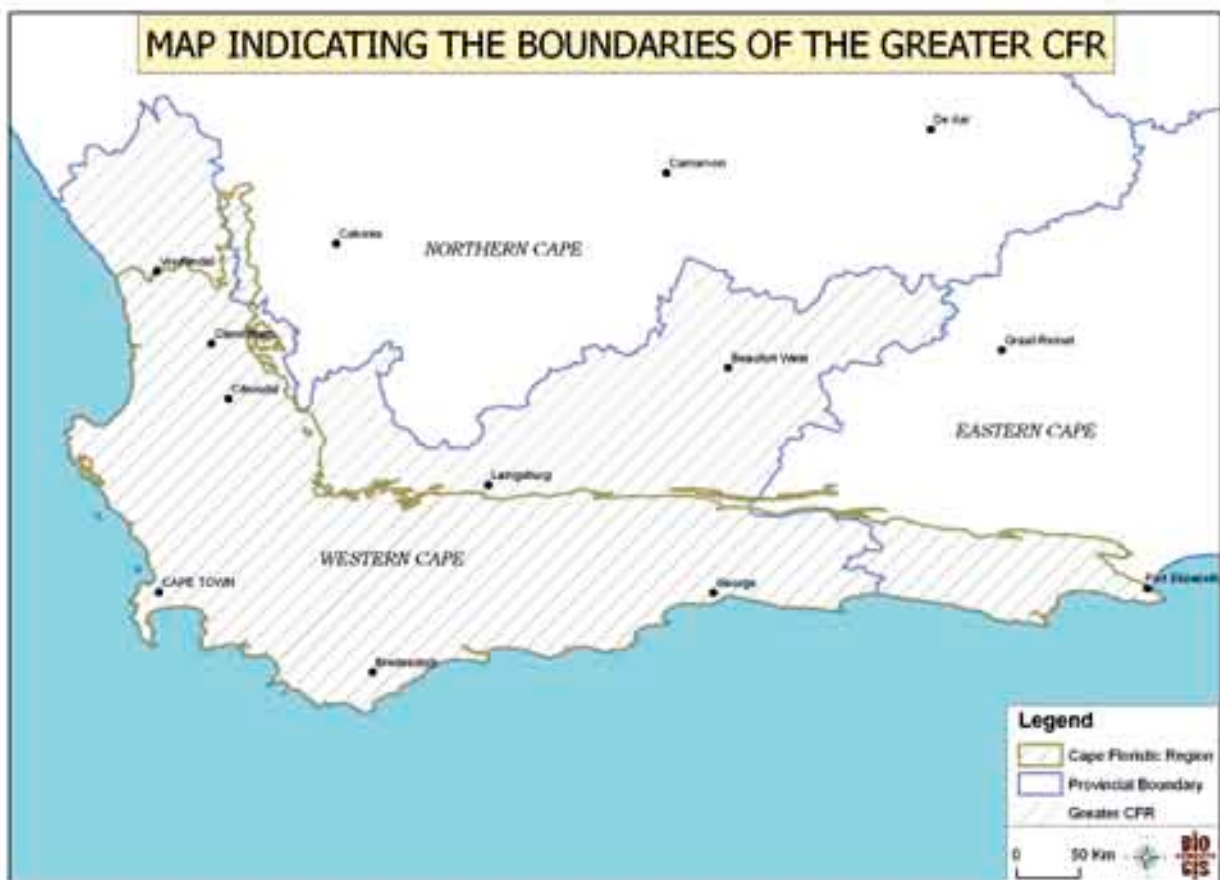


Figure 1: Boundaries of the CFR and Greater CFR

# 6. Fundamental Principles Underpinning the Strategy

Reference has been made in general – and in the next section in specifics – to the challenges presented by IAS in their many and varied forms. The required actions that will emerge from this strategy will be equally varied. It is, therefore, vital for the overall effectiveness and sustainability of the IAS strategy that a clear set of principles be established to guide all these initiatives.

## 6.1 Legislation and policy

Invasive Alien Species in the Greater CFR will be managed within appropriate policy and legislative frameworks, and every effort will be made to work with the relevant authorities to optimize legal and policy frameworks.

## 6.2 Planning and prioritization

All initiatives undertaken as part of this strategy will be preceded by sound planning and rigorous prioritization.

## 6.3 Communication

Stakeholder and public awareness will be cornerstones of this strategy. All initiatives undertaken in terms of this strategy will be supported by well-defined and effective communication strategies to ensure both understanding and support from the public in general and key stakeholders in particular.

“It is impossible to control invasive alien species without investing in partnerships across the spheres of government, as well as civic and non-government organizations, the private sector and the public. We have to collaborate and co-operate in identifying priority interventions, and working together achieve agreed-upon outcomes. Anyone who has worked in this field knows that the sum of our collective actions will be so much greater than the component parts – and that individualistic, inward-focused efforts almost always fail in the long-term. Invasives will always work through the weakest links, and can overwhelm all as their numbers, varieties and impacts grow.”

*Dr Guy Preston* CHAIRPERSON / NATIONAL PROGRAMME LEADER, THE WORKING FOR WATER PROGRAMME,  
CO-CHAIR: THE WORKING ON FIRE PROGRAMME, CO-CHAIR: THE WORKING FOR WETLANDS PROGRAMME,  
CO-CHAIR: KWAZULU-NATAL INVASIVE ALIEN SPECIES PROGRAMME



## 6.4 Capacity building

Again, all initiatives undertaken in terms of this strategy will be structured around the creation of an enabling environment – with appropriate policy and legal frameworks, institutional development, community participation, human resources development, the strengthening of managerial systems and particular focus on skills and capacity – so as to bolster the sustainability of the interventions for as long as the threats can be reasonably expected to persist.

## 6.5 Early detection and rapid response

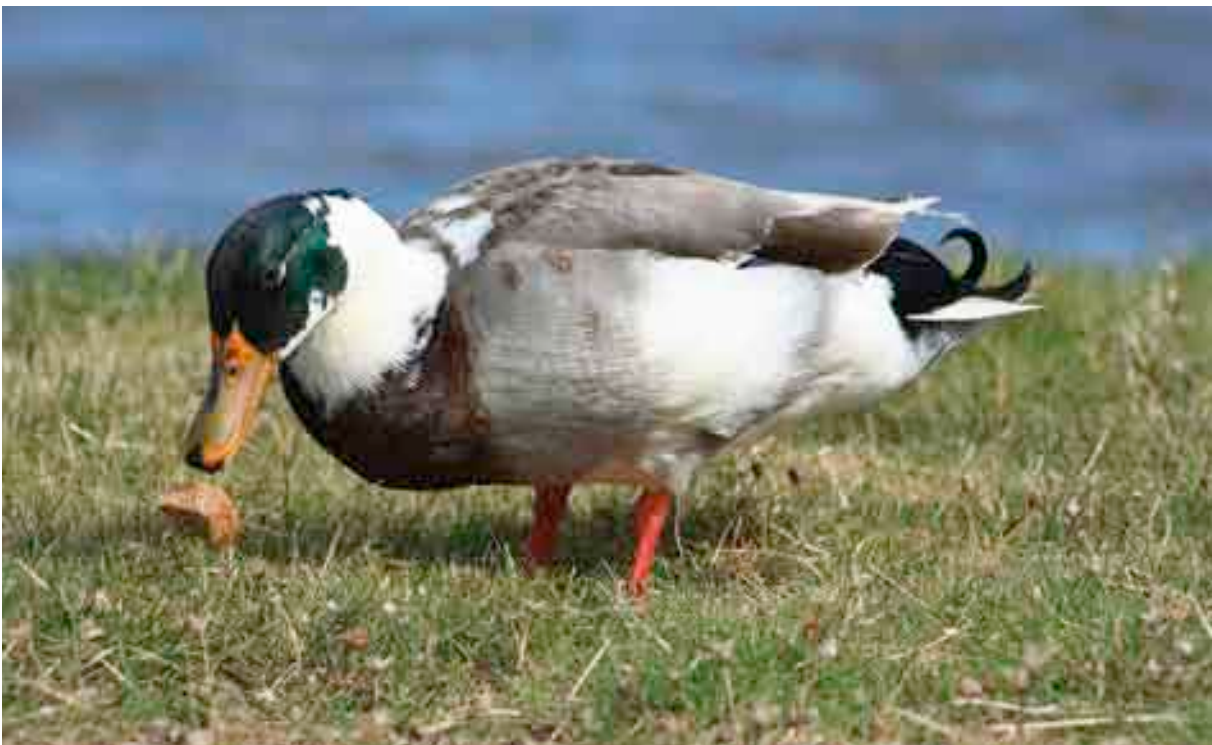
In order to limit the scope and scale of the IAS challenge, this strategy will deliver meaningful measures to detect and eradicate new invasions before they become established.

## 6.6 Integration and alignment

The efforts of the various governmental, parastatal organisations and NGOs involved in a range of biodiversity management initiatives in the Greater CFR will be coordinated to achieve maximum results with the limited resources generally available.

## 6.7 Monitoring and evaluation

Appropriate monitoring and evaluation process will underpin all initiatives in order to inform ongoing management, planning and priority setting and to ensure adaptive management.



# 7. Structuring for Success

As indicated in the Executive Summary, a key challenge in articulating the IAS strategy has been the design of an organizational model that is most likely to enable the effective and sustainable implementation of the strategy.

To provide context for this vitally important element of the IAS strategy, it is necessary to review the overall development of the strategy from 2005 to date. The process has been delineated by three phases:

- Phase 1 – Establishing the strategy
- Phase 2 – Mobilizing for implementation
- Phase 3 – Structuring for success.

The structure in Phase 3 is, therefore, based on the important insights gained from Phases 1 and 2.



## 7.1 Phase 1 – Establishing the strategy (2005 to 2007)

Phase 1 consisted of the development of the IAS strategic vision, as well as its goals and objectives for the Greater CFR. During this phase, the IAS Task Team was expanded to be more representative of key partner organizations, and mainly consisted of key individuals from the key partner organizations. The main objective of the TT was to develop the IAS strategy. The nature of the invasive alien plant and animal components of the strategy required specialist input and resulted in the establishment of two focused working groups, viz. the Invasive Alien Plant WG and the Invasive Alien Animal WG.

## 7.2 Phase 2 – Mobilizing for implementation (2008 to 2009)

During Phase 2, various CAPE-funded projects were implemented, and the IAS TT and Working Groups prepared for the implementation of the IAS strategy by agreeing on priorities and actions to realize the objectives. The research management interface was established at a research seminar where actions were identified to improve future interaction between researchers and managers. A number of CAPE-funded projects were conducted during this phase.

The research projects undertaken include the following:

- 7.2.1 The development of a systematic conservation planning tool which will aid managers in their decision making, planning and prioritization in terms of Invasive Alien Plant (IAP) clearing operations in the CFR and Western Cape



The IAS Task Team provide the scientific basis for success.

- 7.2.2 The development of a densification model which can be used to determine the rate of spread of IAP species in the CFR and Western Cape under different scenarios
- 7.2.3 The development of a national Risk Assessment Protocol (RAP) for the importation of reptiles and amphibians into South Africa
- 7.2.4 Determination of the geographic origin of the recent range expansion of the painted reed frog *Hyperolius marmoratus* in the Western Cape
- 7.2.5 The characterization of the risk for gene flow and the development of invasive potential in transgenic oilseed rape (Canola) in the Western Cape
- 7.2.6 The impacts of Invasive Alien Fish, namely the small-mouth bass on riverine ecosystems.
- 7.2.7 The impact of invasive fish on crabs and frogs
- 7.2.8 The influence of invasive and indigenous fish on their resident river ecosystem
- 7.2.9 The impact of invasive fish on the aquatic food web
- 7.2.10 Research on the following to inform the development of an Early Detection and Rapid Response Strategy for Invasive Alien Animals:
  - understanding the extent of marine invasions
  - understanding the consequences of ungulate translocations for the South African conservation economy

#### Other CAPE-funded projects

- 7.2.11 An EIA to determine the best method for the removal of Invasive Alien Fish, with the overall goal being the rehabilitation of sections of four rivers: Krom, Rondegat and Suurvlei in the Cederberg, and the Krom in the Eastern Cape. An Environmental Management Plan was produced to guide the implementation of the proposed methods of eradication and monitor the efficacy thereof.
- 7.2.12 Invasive Alien Plant (IAP) mapping and Management Unit Clearing Plan (MUCP) for a priority area of the Greater Cederberg Biodiversity Corridor (GCBC). The priority area extends from the Groot Winterhoek conservancy area northwards to the central Cederberg area east of Algeria – covering an area of just under 198 000 hectares.





### 7.3 Phase 3 – Structuring for success (2009 onwards)

In the Foreword Professor Richardson referred to the “bewilderingly complex” problems associated with biological invasions and the need to “tackle these problems on many fronts – in a coordinated fashion”.

The reality is that we do not know whether the huge financial investment over the past number of years has resulted in a reduction of the overall problem. There is general agreement that effective and sustainable progress in meeting the IAS challenge has been hampered by a number of key issues:

- Fragmented planning and prioritization, and the lack of coordination and alignment among key role-players and stakeholders
- The lack of effective mechanisms for ensuring that mandated authorities and partner organizations, who are primarily responsible for implementation on the ground, and are enabled (beyond their current participation in the various planning activities) to:
  - commit to integrating agreed IAS objectives into their respective business plans
  - strengthen capacity through skills development and/or additional funding
  - obtain support in areas best handled on a collective basis – such as changes to legislative structures
  - coordinate efforts to achieve greater results as well as economies of scale.

These issues can be overcome by establishing an appropriate governance and organizational model (p. 18) for the implementation of the IAS Strategy.



Eurasian starling

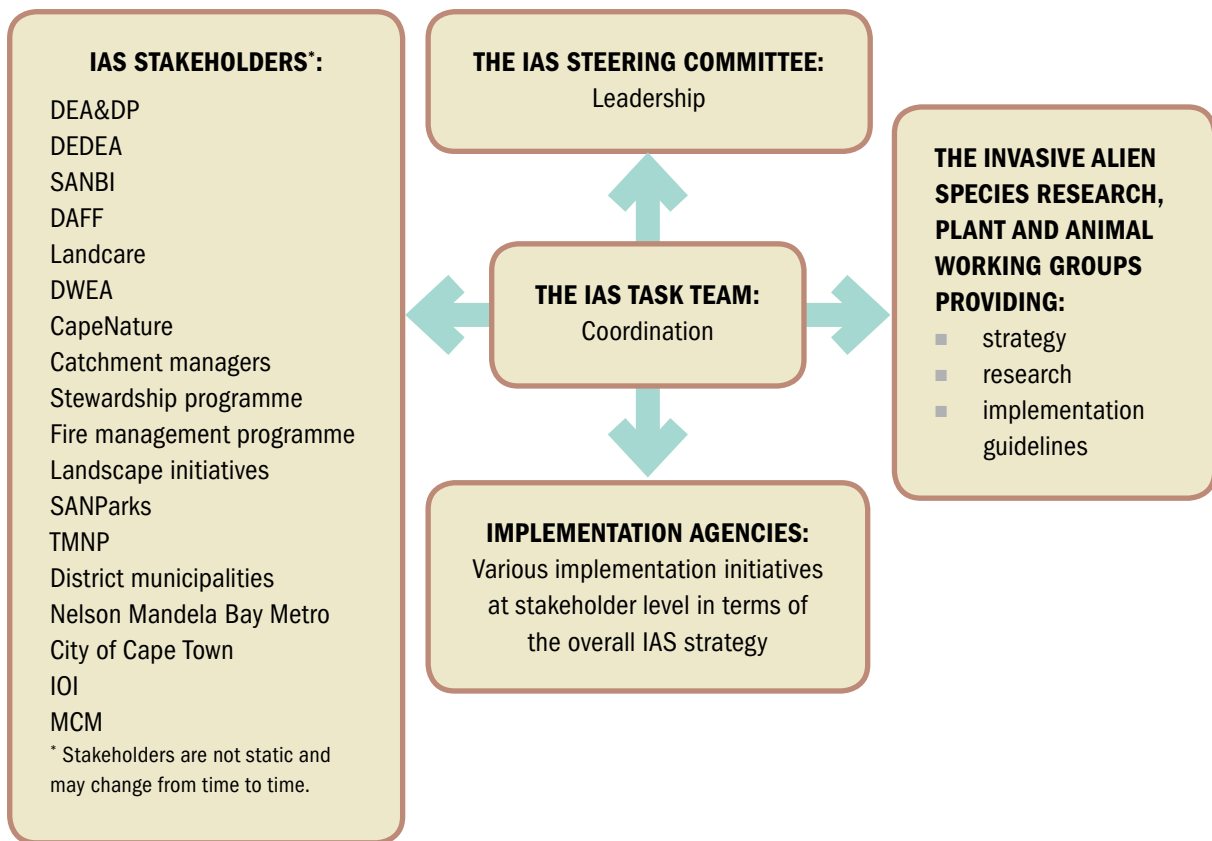
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Leadership is vital to the success of the strategy.

“There are four key elements in any successful invasive alien species programme; a sound strategy, a realistic target, an adequate budget and, most important of all, good management. If any of these are missing, you are simply wasting your time and, generally, somebody else’s money.”

*Dr Ian A W Macdonald, International Environmental Consultant*

### 7.3.1 Proposed governance model



The model is designed to achieve the following:

- Recognition of the central role that the many diverse stakeholders play in the area of IAS management – particularly at the implementation level – the Stakeholders
- The provision of leadership in the steering committee drawn from all the stakeholder organizations – the Steering Committee
- The integration and coordination of the various areas of expertise in the working groups to further develop the IAS strategy, and to provide vital research, develop implementation strategies and to propose priorities – the Working Groups
- An overall coordination and support function that is responsible for facilitating the implementation of the IAS strategy and for providing specialized and collective support – the Task Team
- Focus on implementation through stakeholder structures and management processes – the Implementation Agencies.

7.3.2 The key responsibilities of the various bodies:

7.3.2.1 **THE IAS STEERING COMMITTEE**

The IAS steering committee comprises high-level managers from the various stakeholders. The role of the steering committee is to:

- carry the IAS message to key decision-makers especially within governmental bodies
- take responsibility for the success of the IAS strategy by ensuring accountability through the integration of the objectives into the business plans of the various stakeholders
- provide overarching support through appropriate interventions, such as:
  - structuring legal and policy frameworks
  - provision of funding
  - approval of priorities and project interventions.

7.3.2.2 **THE IAS TASK TEAM**

The IAS task team is a small group of specialized staff responsible for:

- Overall coordination of:
  - planning activities – as executed primarily by the Working Groups
  - implementation activities – through all the participating stakeholder organizations that have implementation capabilities
  - capacity building and skills training
- Provision of specialized services best provided on a collective basis, such as :
  - business plan integration through agreed IAS objectives into respective business planning processes
  - funding
  - communication services
  - overall monitoring and evaluation.

7.3.2.3 **THE IAS WORKING GROUPS**

Working in their respective disciplines – fauna and flora – these teams will have to fulfill a vital role in providing the IAS strategy with a range of scientific and planning services:

- Scientific integrity  
Coordinated by the IAS Task Team the Working Groups provides:
  - the research management interface to ensure that decision-making is scientifically sound and the impact of IAS is reduced
  - Guidance to the steering committee regarding the priorities based on sound scientific knowledge.
  - Alignment of the various research strategies e.g. WFW and Fynbos Forum.
  - Baseline data and knowledge management to enable monitoring of the impact of interventions.
  - Communicate and implementation of best practices to ensure integrated IAS control and the restoration of ecosystem health.



Predicting the identity of future plant invaders, to say nothing of predicting their rate of range expansion and the habitats they will eventually occupy, presents well-known challenges. Global atmospheric change with its repercussions for global climates complicates these challenges much further, as it could create a veritable moving target of possible ranges. Most reliable at this point are predictions of range expansions to higher latitudes as air temperatures increase across almost any spatial scale. More common will probably be the upslope movement of species into mountainous regions, including subalpine and alpine areas that had been previously occupied by few alien species; such species movement is reputedly underway in the Alps.

*Prof. Dan Simberloff  
Nancy Gore Hunger Professor  
of Environmental Studies,  
University of Tennessee USA*





Indian house crow © LOUISE STAFFORD

- Planning services:
  - The Invasive Alien Plant and Animal Working Groups are responsible for the development of the IAS strategy and for recommending priorities and implementation approaches.
  - Members of the Working Groups have a key responsibility to represent the IAS strategy in the best possible light within their respective stakeholder organizations

#### 7.3.2.4 THE IMPLEMENTATION AGENCIES

IAS stakeholders with implementation capacity have – as indicated previously – a vital role to play in the successful implementation of the IAS strategy. Key responsibilities will include:

- integrating key IAS goals and objectives into their respective business planning and monitoring processes
- ensuring that their respective stakeholder organizations are adequately represented on both the Steering Committee and the IAS Working Groups
- working with the IAS Task Team to identify and address areas where additional support and funding is required,
- representing the IAS strategy in the best possible light within their respective stakeholder organizations.

“The importance of the proposed structure that is put in place to support the ongoing implementation and development of the IAS strategy cannot be emphasized too strongly. Stakeholders are encouraged to give this element of the strategy the most careful consideration possible – so that the deficiencies of the current approach are adequately addressed and the new IAS strategy is given an effective foundation on which to move forward.”

# 8.

# Goals, Objectives, Actions and Outcomes

## Goal 1

**Invasive Alien Species in the Greater CFR are managed within the appropriate policy and legislative frameworks.**

Objective	Strategic action	Outcome
To ensure that the management of IAS in the Greater CFR is consistent with the relevant legislation	Understand and address the legal and policy constraints to effective IAS management in the Greater CFR	Legal and policy constraints in terms of IAS management are addressed
	Recommend assignment and/or delegation of legal mandates for different groups of IAS under NEMBA & CARA	Clear legal mandates and delegations are recommended
	Implement incentives and disincentives where possible to help encourage compliance	Increased compliance with IAS legislation
	Support advocacy efforts to obtain political support for the implementation of this IAS strategy	Political support for the implementation of the IAS strategy obtained.
	Support advocacy efforts aimed at securing adequate understanding, support and funding of the enforcement of all IAS legislation by the designated authorities	IAS legislation adequately enforced to ensure compliance
To adapt or improve legislation	Recommend adapting and improving legislation	Support implementation through improved legislation

## Goal 2

**Actions of all role-players harmonized through strategic planning and prioritization**

Objective	Strategic action	Outcome
To provide a framework for a coherent regional action plan through the prioritization of IAS management at appropriate scales	Facilitate the development of a protocol to inform prioritization decisions based on scientific research findings	Coordinated planning on a regional scale improves IAS management in the Greater CFR

Objective	Strategic action	Outcome
	Facilitate the creation of baseline data through regional surveying of all IAS taxonomic groups and then repeat these surveys at appropriate intervals	Improved data on which to base plans for control programmes for all taxonomic groups of IAS
	Facilitate the development of a spatial decision support tool for prioritization and scheduling of IAP control operations	Improved planning and decision-making with respect to IAP management on project level
	Facilitate the development of a hierarchy of priorities to inform planning and decision-making	Flexible hierarchy of priorities contributing to overall IAS management in the Greater CFR
	Facilitate the development of resource economic cases for the scale and duration of funding required for the major components of the IAS strategy	Sustained funding for IAS Management in the Greater CFR secured at appropriate levels
	Collaborate with relevant and provincial stakeholders	Decision-makers in the Greater CFR are informed of developments in other provinces and agencies and lessons learned are incorporated into IAS management

## Goal 3

**Appropriate awareness-raising, education programmes, institutional arrangements and capacity-building implemented.**

Objective	Strategic action	Outcome
To raise awareness and increase buy-in to combat the IAS problem	Identify all stakeholders and target audiences, develop appropriate and harmonized messages; work with key stakeholders to disseminate information about IAS management	Stakeholder base increased and stakeholder awareness of and action on IAS problems improved
	Provide a framework for the human dimensions of IAS management increase understanding of the potential negative impacts of IAS	Communities gaining the necessary insight about the bigger picture moderating and calibrating their reactions to interventions
	Develop and promote improved IAS prevention practices among industries, public agencies and communities	New introduction of IAS prevented through the adoption of IAS prevention practices by industries, public agencies and communities
	Encourage the improvement of education on the issue of IAS at all levels	The public, decision makers and professionals in the field all better educated on IAS
To improve institutional arrangements for IAS management in the Greater CFR	Obtain high level buy-in and commitment from all the relevant institutions (including relevant national and provincial government departments) and role-players in the Greater CFR to implement the IAS strategy	Sustainable implementation of the IAS strategy ensured through high level understanding, buy-in and commitment
	Investigate the feasibility of the establishment of a representative coordinating body for IAS in the Greater CFR/define roles, responsibilities and capacity requirements thereof	A feasibility study indicating the roles, responsibilities and capacity requirements of an IAS coordinating body in the CFR

Objective	Strategic action	Outcome
	Establish the most appropriate representative and mandated coordinating structure in the Greater CFR to pursue the objectives of the strategy	A mandated, effective coordination network in the Greater CFR – pursuing common goals and objectives – and mandated to facilitate wise decision-making regarding IAS management
	Facilitate the incorporation of IAS management into CMA strategies and Municipal Integrated Development Plans (IDP) and Spatial Development Frameworks (SDF) in the Greater CFR	Catchment Management Agencies (CMAs) and other jurisdictional agencies (e.g. municipalities) adopt and give effect to the IAS strategy in planning and management
To build institutional capacity in the Greater CFR to address IAS problems and to improve IAS management	Identify the areas where management capacity and training need to be improved and to build capacity accordingly	Institutions and agencies managing IAS are capacitated to deal with a range of priority initiatives
	Ring-fence funding for capacity building with respect to IAS management in the Greater CFR	All role-players have allocated funding to build capacity in IAS management within their organizations, with the view to retaining these skills
	Enhance the ability of agencies to rapidly and accurately identify new introduced species	IAS rapidly and accurately identified, enabling timely and appropriate response
	Encourage interventions that facilitate job creation to increase capacity in the field of IAS, while contributing to the economy and improvement of human livelihoods	Role-players incorporate job creation into their IAS control plans wherever applicable

## Goal 4

### Introduction and establishment of new IAS prevention through early detection and rapid response

Objective	Strategic action	Outcome
To prevent the intentional and/ or unintentional introduction of IAS and to prevent new IAS establishing or spreading through early detection and rapid response	Implement protocols to prevent the introduction of new IAS into the Greater CFR	Early warning systems allow for the prevention of currently identified and potential IAS being introduced or becoming established
	Continue to strengthen controls in response to pathway analysis and risk assessments	New species with invasive potential do not enter via identified pathways
	Facilitate the development of best practice guidelines for early detection and rapid response	Best practice guidelines available to all role-players and implemented accordingly
	Develop contingency plans for action against new IAS infestations in collaboration with SANBI	Organizations have response plans in place
	Predict spread rates and potential new infestations based on susceptible land-uses, e.g. plantation forestry	Risk management practices implemented to minimize the threat
	Collaborate with institutions such as the CIB to develop protocols to determine the invasive potential of alien species	Invasive potential of species known which will inform decision-making and strategies



Objective	Strategic action	Outcome
	Facilitate the development of a strategy to address introductions by specific sectors, such as the pet and nursery trade and the agricultural and forestry industries	Strategies implemented by industry to address introductions of invader and potential invader species
	Facilitate the development and implementation of provincial response plans for eradication or containment of new IAS before they become well established, as well as eradication of IAS with currently limited distributions	Provincial IAS response plans developed and all role-players have aligned their individual strategies to these plans
	Incorporate the identification, detection and management of sleeper weeds and emerging species into strategies and plans	Role-players in the Greater CFR able to respond rapidly to sleeper weeds and emerging invader species

## Goal 5

### Impact of existing IAS reduced through the implementation of integrated control measures

Objective	Strategic action	Outcome
To give effect to the obligations on landowners in terms of NEMBA Chapter 5 and CARA; to incorporate IAS management into all land use decisions	Facilitate development, implementation and monitoring of the implementation of a best-practice framework for mitigation – including an integration of control methods such as biological control and fire	The cost effectiveness and standard of IAS interventions in the Greater CFR are improved through the implementation of best-practice guidelines by all relevant stakeholders
	Update best-practice guidelines to ensure improvement of management practices based on lessons learnt and scientific research	Role-players implement adaptive management principles
	Facilitate the development of contingency plans and build in flexibility with respect to priorities and re-allocation of resources, enabling rapid response after fires	Managers able and allowed to reprioritize operations and reallocate funding to respond rapidly after fires in the most economical way possible
	Incorporate restoration into strategic IAS plans and implement best-practice guidelines	Ecosystem restoration achieved
	Facilitate the development of integrated control strategies including the promotion of the use of fire and bio-control as management tools	Integrated control strategies improve success and cost effectiveness of IAP control interventions
	Ensure that IAS are not introduced or propagated in programmes and initiatives such as afforestation, aquaculture, landcare, dam construction, etc.	IAS management incorporated into land use decision-making
	Ensure that all IAS control programmes incorporate (to a degree) four complimentary end points: biodiversity conservation, food security and agricultural productivity, maintenance of ecosystem services, and the enhancement of the quality of life	Holistic approach to IAS control programmes implemented

## Goal 6

### Adaptive management informed by research, monitoring and evaluation

Objective	Strategic action	Outcome
To implement IAS monitoring, evaluation and research programmes to enhance IAS management	Consolidate and regularly update IAS baseline information into centralized database(s) for IAPs and IAAs to inform decision-making on a regional scale	Relevant baseline data available for informed decision-making
	Establish an IAS Monitoring and Evaluation framework for the Greater CFR	Monitoring and evaluation is conducted according to a recognized framework
	Monitor and evaluate the efficiency, effectiveness and appropriateness of the strategy	The strategy is implemented and continuously improved.
	Monitor the alignment and implementation of all role-players' IAS strategies in the Greater CFR	Alignment with and guarantees of implementation of the strategy by all role-players
	Monitor progress in terms of overall IAS management and evaluate the implementation of best-practice guidelines	Effectiveness of current strategies and their implementation becomes known
	Establish a monitoring process to ensure that target infestations are successfully eradicated, and to minimize any secondary invasions that might occur as a result of the clearing of the primary target species	Information on IAS distribution, impacts and management is readily available and used to improve management practices
	Prioritize IAS research needs, and identify and facilitate programmes and resources to develop new approaches	Research on IAS undertaken, based on identified priorities
	Strengthen collaboration between research institutions, industry and government on IAS research issues	Collaborative and coordinated IAS research undertaken across the Greater CFR
	Support research to determine and develop an understanding of the impact of climate change on IAS and incorporate most recent findings into management plans	Decision makers understand the impact of climate change on IAS and are able to respond appropriately



# 9.

## Next steps: *turning the strategy into action*

The following steps will be necessary to turn this strategy from a written document into a dynamic and successful Invasive Alien Species programme for the Greater CFR:

- 9.1 Secure and maintain high level support for implementation by formalising the organizational structure set out in Section 7:
  - Steering Committee
  - IAS Task Team
  - IAP and IAA Working Groups
  - Implementation Agencies.
- 9.2 Formally agree the delegation of the various interventions agreed in Section 7 to the respective implementation agencies through a structured process of having the Goals, Objectives, Actions, and Outcomes integrated into their business planning and management processes.
- 9.3 Develop a coordination model to facilitate:
  - the monitoring of the various delegated interventions and to facilitate overall coordination
  - overall communication
  - distributions and alignment of funding
  - overall prioritization.
- 9.4 Secure appropriate levels of funding for implementation including alignment of budgets.



# 10. Approval

The CAPE partnership programme unites government, NGOs and civil society in a strategy to conserve and restore biodiversity and create benefits for all the people of the Cape Floristic Region. Key to the success of the CAPE programme is the involvement of our funding partners – the World Bank, the (UNDP) and the Critical Ecosystem Partnership Fund (CEPF).

In 2004, the CAPE programme received a major boost with the receipt of two Global Environment Facility grants: the \$3 million Agulhas Biodiversity Initiative (through UNDP), and the \$11 million Biodiversity Conservation and Sustainable Development project (through the World Bank and UNDP). Both of these projects are due to be completed in June 2009. The GEF investments have occurred together with and have complemented the Critical Ecosystem Partnership Fund five-year grant of \$6 million to the Cape Floristic Region from 2002-2007 and a CEPF Consolidation Grant to sustain the gains made, starting in 2008 for three years. Other funders have included WWF-SA and the Mazda Wildlife Fund.

There are currently 23 signatory partners to the CAPE Memorandum of Understanding, including non-governmental organisations, national and provincial government departments and conservation agencies.

## Signatory partners

Bird Life South Africa

Botanical Society of South Africa

CapeNature

City of Cape Town

Conservation International

Department of Agriculture

Department of Environmental Affairs and Tourism

Department of Water Affairs and Forestry

Development Bank of South Africa

Eastern Cape Department of Agriculture and Land Affairs

Eastern Cape Department of Economic Development and Environment Affairs

Eastern Cape Parks

Fauna & Flora International

Nelson Mandela Bay Municipality

Open Africa

South African National Biodiversity Institute

South African National Parks

Table Mountain Fund

United Nations Development Programme

Western Cape Department of Agriculture

Western Cape Department of Environmental Affairs and Development Planning

Wildlife and Environment Society of South Africa

Wilderness Foundation

WWF - SA



Below is a list of acronyms and definitions:

<b>ABI</b>	Agulhas Biodiversity Initiative
<b>Adaptive Management</b>	The process whereby management adapt and improve future action through learning from the past
<b>CAPE</b>	Cape Action for People and Environment
<b>CARA</b>	Conservation of Agricultural Resources Act 43 of 1983
<b>CFR</b>	Cape Floristic Region
<b>CIB</b>	Centre for Invasion Biology, University of Stellenbosch (and other cooperating research organizations)
<b>CMA</b>	Catchment Management Agency
<b>DAFF</b>	Department of Agriculture, Forestry and Fisheries
<b>DEDEA</b>	Department of Development Environment and Agriculture (E-Cape)
<b>DWEA</b>	Department of Water and Environmental Affairs
<b>EIA</b>	Environment Impact Assessment
<b>Emerging IAS</b>	IAS that are currently of limited distribution and/or density but which are rapidly invading new areas, and rapidly increasing in frequency and/or density in already invaded areas.
<b>EPWP</b>	Expanded Public Works Programme
<b>Evaluation</b>	Evaluation consists of reviewing the results of actions taken and assessing whether these actions have produced the desired results
<b>GCBC</b>	Greater Cederberg Biodiversity Corridor
<b>GEF</b>	Global Environmental Facility
<b>GMO</b>	Genetically Modified Organisms
<b>Greater CFR</b>	Expanded area to include the CFR and the boundaries of the Western Cape
<b>GRI</b>	Garden Route Initiative
<b>IAA</b>	Invasive Alien Animals
<b>IDP</b>	Integrated Development Plan
<b>IAP</b>	Invasive Alien Plants
<b>IAS</b>	Invasive Alien Species

<b>Implementation Agencies</b>	Institutions designated and responsible for managing IAS programmes or projects
<b>IOI</b>	International Ocean Institute
<b>MCM</b>	Marine and Coastal Management
<b>NEMBA</b>	National Environmental Management: Biodiversity Act, 2004
<b>NGO</b>	Non-governmental organization
<b>SDF</b>	Spatial Development Framework
<b>Sleeper weeds</b>	Those non-indigenous plants that have naturalized, but are believed to have not yet reached their potential to become established.
<b>TMNP</b>	Table Mountain National Park

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