

Cape Floral Region Protected Areas

2020 Conservation Outlook Assessment

SITE INFORMATION

Country: South Africa

Inscribed in: 2004

Criteria: (ix) (x)



Inscribed on the World Heritage List in 2004, the property is located at the south-western extremity of South Africa. It is one of the world's great centres of terrestrial biodiversity. The extended property includes national parks, nature reserves, wilderness areas, State forests and mountain catchment areas. These elements add a significant number of endemic species associated with the Fynbos vegetation, a fine-leaved sclerophyllic shrubland adapted to both a Mediterranean climate and periodic fires, which is unique to the Cape Floral Region.

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SUMMARY

2020 Conservation Outlook

Finalised on 01 Dec 2020

GOOD WITH SOME CONCERNS

Overall, the conservation outlook for the Cape Floral Region protected areas is good with some concern. The values of the World Heritage site that were identified at the time of its inscription on the World Heritage List are still present and maintained. The primary threats of invasive alien plants species and wildfires continue to affect the site. However, the State Party has adopted an integrated management approach to address both of these threats. The systems currently in place can be considered effective for the protection of the site having recently addressed longstanding shortfalls in financial resources for the site's effective management. However, there remain significant delays in finalising the individual management plans for the component clusters in order to allow the Integrated Management Plan for the entire World Heritage site to be fully developed and implemented.

FULL ASSESSMENT

Description of values

Values

World Heritage values

► **Outstanding diversity, density and endemism of flora** **Criterion:(x)**

A serial site – in the Eastern and Western Cape Provinces, South Africa – made up of 13 complexes of protected areas, covering 1,0947,98 ha, the Cape Floral Region Protected Areas (CFRPA) property is one of the richest areas for plants in the world. It represents less than 0.5% of the area of Africa but is home to nearly 20% of the continent's flora. The outstanding diversity, density and endemism of the flora are among the highest worldwide. Some 69% of the 9,000 plant species in the region are endemic, with some 1,799 species identified as threatened of which 1,738 are endemic. The Cape Floral Region has been identified as one of the world's 35 biodiversity hot spots (World Heritage Committee, 2015).

► **Ongoing ecological and biological processes associated with the evolution of the unique Fynbos biome** **Criterion:(ix)**

The property is considered of outstanding universal value for representing ongoing ecological and biological processes associated with the evolution of the unique Fynbos biome. These processes are represented generally within the Cape Floral Region and captured in the 13 complexes of protected areas. Of particular scientific interest are the plant reproductive strategies including the adaptive responses to fire of the flora and the patterns of seed dispersal by insects. The pollination biology and nutrient cycling are other distinctive ecological processes found in the site. The Cape Floral Region forms a centre of active speciation where interesting patterns of endemism and adaptive radiation are found in the flora (World Heritage Committee, 2015).

Assessment information

Threats

Current Threats **High Threat**

Invasive alien plants pose the most severe threat for the continued existence of Fynbos ecosystems within the CFRPA. Large areas adjacent to the property are invaded and to a lesser extent within the property. Invasive plants pose both a direct (through displacement), cumulative (disruption of catchment water retention) and a knock on effect (in promoting the second most severe threat, excessive fires). The seriousness of these threats are not uniformly applied across the entire 13 clusters that make up the CFRPA World Heritage site, however, the intactness and integrity of the OUV must be considered. The recent confirmation for an increase and sufficient allocation of funds for an effective operation and management of CFRPA is positive, and such efforts need to be maintained.

► **Fire/ Fire Suppression** **Very High Threat**
(Increased size, intensity and frequency of fire.) Inside site, throughout(>50%)
Outside site

Too frequent fires are a major threat to fynbos, as this prevents some plants from reaching seeding age. Fire is a natural component of the Fynbos Biome and fire management is a major issue in all clusters. However, the fire frequency is greatly increased within the Cape Peninsula (Table Mountain NP), and the Boland Complex due to the proximity to the larger urban centres. In some areas fire has been suppressed unnaturally due to the proximity to the Urban interface. The Garden Route cluster faces

severe risks due to the existence of large pine plantations within the buffer which complicate the fire management in the area. Increasing fire frequency, size and intensity is also related to the presence of invasive alien plants. Climate change, which is stimulating the growth of invasive woody plants, as well as increased drying has increased fire intensity and frequency. While not every cluster of this complex serial World Heritage site is affected to the same extent by this threat, impacts on any cluster or part of a World Heritage site must be considered a threat to the OUV.

► **Collection of non-timber forest products (NTFPs)**

Low Threat

(Legal and illegal harvesting of plants)

Inside site, localised(<5%)
Outside site

Species abundance requires close monitoring and there is a need to be vigilant of their population trends in order to detect changes early on. Ecosystems are deeply connected and changes to one plant species could have a notable impact on others. Fire can affect the remaining stock and therefore legal harvesting needs to be adapted accordingly. Differentiating between some species are also often difficult with one study noting six species of *Erica* listed as 'no go' were all identified using the same common name 'Erica Pink' thereby emphasizing the need to accurately record all plants to the species level (Privett et al., 2019). Many guidance and reports have looked at the sustainable harvesting of plants in the Cape Floristic Region and therefore the mechanisms to ensure sustainability appears to be present. However, resourcing challenges have also pointed to opportunities for over-harvesting and picking of illegal species to have increased (Blokker et al., 2015).

► **Invasive Non-Native/ Alien Species**

Very High Threat

(Invasive species)

Inside site, widespread(15-50%)
Outside site

At the time of initial nomination on the World Heritage List in 2004, IUCN noted that invasive plant species posed the most severe threat to the continued existence of the Fynbos ecosystems that characterize this site. This continues to be the case, especially due to *Pinus* spp., *Acacia* spp., *Hakea* spp. and *Eucalyptus* spp. Invasive plant species have invaded large areas of CFRPA, altering the fire regime and characteristics (State Party of South Africa, 2020). Species that depend on seed dispersal by ants are under threat, as indications are that the alien Argentine ant could displace the native seed-dispersing species (Mothapo and Wossler, 2011). Other components of biodiversity such as the fynbos endemic birds are also at risk from ecosystem modification by alien plants (Lee and Barnard, 2012). In 2006, it was reported that a lack of funding was prohibiting effective management of this threat. Following some fluctuations in funding allocation over the last decade, the State Party reported that the three management authorities of the property now receive and generate sufficient funds to ensure the sustainable operation and management of the site (State Party of South Africa, 2020). Clearing of invasive alien plant species is one of the core functions of the management authorities of the CFRPA and progress is reportedly measured using tools such as METT and SoAIM. Such data were not available for this assessment and whilst being addressed, the threat persists and therefore the level of threat is retained for the present.

► **Temperature extremes**

High Threat

(Climate change)

Inside site, throughout(>50%)
Outside site

Increase in extreme climatic events, and rainfall variability are believed to be due to global/human-induced climate change. There is evidence that the increased growth rate and spread of invasive alien woody plants have increased the fuel load which in turn has contributed to larger, more frequent and certainly more intense wild fires that negatively affect all biota, which is exacerbated by climate change. Long-term model predictions of drying and increased temperatures for the region may also lead to a southerly shift for the Fynbos Biome, with replacement by the Karoo Biome in some areas, and thus an overall loss of area of the CFR.

Potential Threats

High Threat

The impacts of climate change are likely to increase in the future. The majority of the 13 clusters offer some altitudinal buffering at a local scale; but at a larger geographic scale, there is limited ability for

adaptation by southward vegetation shifts. Human population pressure will pose an increasing threat to at least one of the major components, the Table Mountains National Park, and will exacerbate climate change impacts for all sites.

► **Temperature extremes**

(Climate change)

High Threat

Inside site, throughout(>50%)
Outside site

Predictions include a warmer climate (up to 3.7 deg C) and a shifting rainfall (10-30% decrease in winter rainfall) by 2050. Virtually all the 13 clusters have steep altitudinal gradients and all are bordered by other conservation lands. This buffering is continuing constantly through the efforts of the Stewardship Programme to secure Private Land through contracts for conservation. These areas will help moderate some effects of climate change and a monitoring system is in place to detect what these effects will be. Predictions include that the geographic extent of Cape Fynbos may be reduced by around two-thirds, with over half of its species becoming extinct due to temperature rise. In addition to this, higher temperatures and levels of carbon dioxide in the air will increase the risk of wildfires which is exacerbated by the woody invasive alien plants in Fynbos areas.

► **Housing/ Urban Areas**

(Human population rise)

High Threat

Outside site

Human population pressures on biodiversity are expected to grow and will particularly affect the Table Mountain National Park (TMNP) and the Boland Complex, reflecting their location adjacent to the city of Cape Town and several smaller towns respectively. Human population in Cape Town is growing at around 2.4% per annum, recording around 4.6 million in 2020 (World Population Review, 2020). Population pressure also results in increasing incidences of human induced fire and the TMNP is a recreational resource for urban residents. The close proximity of urban infrastructure to high fuel loads develops a climate of risk aversion resulting in controlled burns being delayed resulting eventually in wild fires. The Garden Route cluster has large commercial pine plantations adjacent to its borders that add risk and increases the level of complexity in dealing with fuel load management, invasive alien plants and fires. This situation is not improving as climate change effects become more apparent and resources dwindle.

Overall assessment of threats

High Threat

The main problems are aggressively invasive plant species and the resulting increased intensity of wildfires. Invasive alien plants pose the most severe threat for the continued existence of Fynbos ecosystems. Large areas of the property and adjacent buffering areas are affected by invasive plants which pose both a direct (through displacement), cumulative (disruption of catchment water retention) and a knock on effect (in promoting the second most severe threat, excessive fires). The impacts of climate change are likely to increase in the future. The majority of the clusters offer some altitudinal buffering at a local scale; but at a larger geographic scale, there is limited ability for adaptation by southward vegetation shifts. Invasive plants, increased fires, and climate change impacts as well as increased human population pressure can expect to interact with each other (multiplier effect). Trends for these are continuing and increasing for some, over large areas of the Cape Floral Region, this makes it increasingly important that the ability of the organisations to operate at optimum capacity is essential.

Protection and management

Assessing Protection and Management

► **Management system**

Some Concern

The Cape Floral Region Protected Areas is a serial property comprising of 13 clusters of protected areas covering a total area of 1,094,798 ha. The coordination of the management of the component protected areas is through the Joint Management Committee. The national Department of Environmental Affairs chairs this committee and the three conservation agencies involved (Western Cape Nature Conservation Board, South African National Parks Board and the Eastern Cape Parks and Tourism Agency) serve on this committee. All the properties are protected in terms of various Provincial and National legislation and are already declared or are in the process of being declared in terms of the National Environmental Management: Protected Areas Act (57 of 2003). To date, only four out of the thirteen clusters have complete Management Plans, with the rest underway (State Party of South Africa, 2020), despite having begun the process a number of years ago (UNESCO, 2018). As reported previously, the Integrated Management Plan (IMP) will be developed once all the individual Management Plans have been completed. The State Party has been requested by the World Heritage Committee to submit a property-wide management strategy in the form of an Environmental Management Framework (World Heritage Committee, 2015). However, the delay in the completion of the management plans for the remaining nine clusters has delayed this process and is therefore still not complete (State Party of South Africa, 2020).

► **Effectiveness of management system**

Some Concern

A number of improvements have been made to enhance the effectiveness of the management system following multiple instances of concern expressed by the World Heritage Committee (World Heritage Committee, 2006; 2007; 2009; 2018). These improvements include the adoption of an integrated management approach to fire and invasive alien species. Fire management has also improved with the implementation of more coordinated responses to fires through Incident Command Centers supported by various government, local government and private stakeholders. In addition, many of the protected areas utilise the METT system – Management Effectiveness Tracking Tool – to interrogate the protected area management and ensure constant improvement. Finally, an Environmental Management Framework (EMF) is under development and will be completed by 30 November 2020, which will propose additional buffer zones around each cluster and will guide the future development of a Spatial Development Framework (SDF) to cover strategic spatial planning and guide land use in the area. However, the effectiveness of the management system is still hampered by the ongoing delay in the completion of the management plans for the nine remaining protected area clusters, despite assurances that "all 13 clusters of the property will be completed by 31 December 2019" (State Party of South Africa, 2018; UNESCO, 2018). Without the completion of each management plan, the development of the Integrated Management Plan for the entire property is further delayed. Whilst the finalisation of the individual management plans should be expedited, they should also consider objectives for the entire property in line with the defined Outstanding Universal Value (OUV), such that their objectives are well aligned with a common management framework.

► **Boundaries**

Mostly Effective

The extension of the CFRPA World Heritage site has been a critical step to further secure the CFRPA network and the associated buffering mechanisms inclusive of biodiversity corridors and biosphere reserves. The extension was approved by the World Heritage Committee in July 2015. There is currently an initiative to further extend the CFRPA to include other protected areas that were not deemed ready for inclusion at the time the extension dossier was being compiled. These will include Stewardship Contract Nature Reserves, local authority nature reserves and other legally protected areas. They will be exposed to the same rigorous selection process as the previous nominations. Priority will be given to consolidating the existing World Heritage property and its component parts, extending corridors and altitudinal gradients.

► **Integration into regional and national planning systems**

Mostly Effective

The component clusters which comprise the site are part of national park and provincial park management systems. The 2015 extension of the CFRPA World Heritage site was part of the National

Protected Area Expansion strategy. As Protected Areas under NEMA, management authorities also have to contribute to provincial and local Sustainable Development Frameworks (SDFs) and Integrated Development Plans (IDPs) and governance arrangements have been 'strengthened through the participation of the Chief Executive Officers of all three management authorities since 2016, to improve the coordination of the Joint Management Committee' (State Party of South Africa, 2018; UNESCO, 2018). The development of an Environmental Management Framework (EMF) has now been initiated, and will propose additional buffer zones around each cluster and guide the future development of a Spatial Development Framework (SDF) to cover strategic spatial planning and guide land use in the area (State Party of South Africa, 2020). Information in 2018 that national and provincial drought declarations for the Western Cape Province were to facilitate the drilling of emergency boreholes in the property (State Party of South Africa, 2018; UNESCO, 2018), were of concern if the values of the property were not taken into account during this process. However, the drought declarations ended in June/July 2018 and water supplies have since improved significantly (State Party of South Africa, 2020). The relevant Directive which would have allowed the city of Cape Town to drill emergency boreholes to extract water from the Table Mountain Group Aquifer has therefore been withdrawn. The State Party note in the 2020 State of Conservation report that the management authorities will take into consideration any potential impacts on the property in terms of how and where drilling takes place in the future (State Party of South Africa, 2020).

► **Relationships with local people**

Mostly Effective

Except for Table Mountain National Park adjoining the metropolis, and the Boland Mountain Complex, most of the component sites are nearly empty of people and buffered by lightly populated reserves, the mountainous areas with almost no population. The high population neighbouring the Table Mountain National Park have necessitated social programs to combat poverty and enlist conservation awareness through volunteer group work. There is a need to raise awareness of the dangers of not dealing with IAP and the need to do controlled burns. Due to the high risks involved, controlled burns are often delayed which results in disastrous wild fires. Many of the protected areas with the site also have active "Protected Area Advisory Committees" as required by National legislation. These ensure input from local people and concerned citizens and ensure transparent and accountable management from authorities. Following extensive flooding and fires in some sections of the site, members of the Imizamo Yethu community were significantly affected and displaced. Permanent housing has now been identified for the who were affected (State Party of South Africa, 2020), however it should be clarified whether these new developments took place inside the property so as not to impact the values of the property adversely.

► **Legal framework**

Mostly Effective

The State Party has reported the legislation for the effective management and protection of CFRPA to be adequate and clear (State Party of South Africa, 2020a). It also notes however, that the single greatest challenge has been regulation and implementation of the existing robust legislations, which the national, provincial and local level authorities are addressing in a number of ways (State Party of South Africa, 2020a).

► **Law enforcement**

Mostly Effective

Most of the protected areas and the surrounding landscape have been inadequately staffed with regard to enforcement. There is no more recent information to suggest this aspect of the property's anagement has improved. However, the existing staff have been deemed sufficiently effective to prevent major impacts on biodiversity, despite small scale poaching and arson in some areas with indications that it is on the increase. TMNP has had problems with visitor security that it is dealing with some success.

► **Implementation of Committee decisions and recommendations**

Some Concern

The CFRPA has been subject to multiple Committee examinations and the State Party has been able to implement some of the Committee's requests, albeit with significant ongoing delays to some. Of note, requests related to the establishment of a single management authority (State Party of South Africa,

2009; UNESCO, 2009); extension of the property (State Party of South Africa, 2009; UNESCO, 2009), and sustainable financing and budgets (State Party of South Africa, 2009; 2020; UNESCO, 2009), including to combat invasive plants and monitor fire impacts have been adequately addressed to a greater extent. However the significant and ongoing delays in the implementation of the Committee's requests to develop individual management plans for all thirteen clusters of the property in order to formulate a property-wide management strategy in the form of an Environmental Management Framework is of some concern (State Party of South Africa, 2018; 2020; UNESCO, 2018).

► **Sustainable use**

Mostly Effective

No commercial or subsistence hunting is allowed within the 13 clusters but illegal hunting does occur at low levels. Subsistence wild plant collection also occurs but the State Party reports that it not impacting the OUV (State Party of South Africa, 2020a). Many guidance and reports have looked at the sustainable harvesting of plants in the Cape Floristic Region and therefore the mechanisms to ensure sustainability appears to be present. Resourcing challenges in the past have pointed to opportunities for over-harvesting and picking of illegal species (Blokker et al., 2015).

► **Sustainable finance**

Mostly Effective

In the past, sustainable funding for conservation management was reported to be under severe pressure from competing socio-economic priorities to the extent that some agencies' budgets were cut, resulting in critical posts not being filled. Operational funding was also not deemed adequate to effectively manage the external funding and operational activities at an acceptable standard, with a number of conservation issues of concern not being able to be sufficiently addressed as appropriate (IUCN, 2004; UNESCO, 2009). However, in their most recent report the State Party has confirmed that this issue has been addressed and that sustainable financing arrangements are in place in all three bodies involved in the property's management (CapeNature, ECPTA & SANParks), for the effective management of the property (State Party of South Africa, 2020).

► **Staff capacity, training, and development**

Mostly Effective

Most reserves have at least one Resident Manager and qualified staff who are employed in planning and management, research and development, reinforced by in-house training and continued higher study. Sustainable financing has reportedly been addressed in recent times across all three management bodies, and therefore it can be assumed that staff capacity is appropriate.

► **Education and interpretation programs**

Mostly Effective

The communications departments of the reserves have a broad range of outreach and educational programmes, information pamphlets, maps, brochures, and advertising campaigns both in the reserves and in travel magazines. Promotion uses other media outlets, meetings and discussions between reserve managers and neighbours in both provinces. Recently, an Interpretation Centre has been proposed for development in Baviaanskloof Nature Reserve, subject to an EIA (State Party of South Africa, 2020), which should improve the program of education in this particular component should the project be granted approval following the necessary impact assessments.

► **Tourism and visitation management**

Mostly Effective

The Cape is a popular tourist destination, both nationally and internationally, especially the Table Mountain National Park which received in 2008 over 2 million fee-paying visitors and 2 million others. Flower, whale and penguin viewing are among the attractions. Other reserve visitation varies between 58,500 a year in the Boland Mountain reserves near Cape Town, to 18,000 a year in Cederberg and De Hoop and 1,130 in Boosmansbos. Baviaanskloof receives approximately 15,000 visitors per year. Infrastructure and reserve facilities are generally good and effective methods are used to control visitor numbers when necessary.

► **Monitoring**

Some Concern

Monitoring systems are in place in all of the component sites. While these systems are considered effective the available human resources to operate these systems is no longer adequate. The concern

over the increasing fire frequency, especially due to - but not limited to - the proximity of the TMNP to the urban environment has led to commissioning of the Council for Scientific and Industrial Research (CSIR) to update its fire management programme and set in place scientifically based desired measures and targets with respect to fire management. As such, an intensive fire monitoring programme, based on adaptive conservation management, is in place for all protected areas. However the scientific staff to process the data and feedback to management is reportedly inadequate.

► Research

Mostly Effective

This is one of the most intensely researched floral regions in the world. The site nomination's bibliography alone lists 290 publications on the flora, fauna and culture of southwest Africa. Three local universities and the South African National Biodiversity Institute (SANBI) sponsor constant research. The Western Cape Nature Conservation Board (CapeNature) uses GIS recording in the State of Biodiversity database to capture, store, retrieve and process biological data on species distribution and populations, alien plant eradication, fire mapping (including the development of vegetation age maps), water quality and other ecological processes, all centrally stored at the Scientific Services Headquarters at Jonkershoek. Predictive models forecasting the potential effects of climate change on each area have been prepared. This ability has however been compromised by the budget cuts and the lack of funding to fill key vacated posts within Scientific Services. The ECPTA is also developing an information system. The 13 clusters of protected areas contribute to national monitoring exercises such as the South African Bird-ringing Project, South African Bird Atlas Project 2, the Birds in Reserves Project, Frog Atlas Project, the Nest Record Card Scheme, the Information System for Endangered Plants and the Provincial Fire Records database.

Overall assessment of protection and management

Mostly Effective

Overall, the management and protection of the property is mostly effective in combating the threats to the site's OUV. The key threats of invasive alien species, and the associated fire risk that these invasive plants species pose, as well as land use change are both regulated and monitored through the existing protected area structures. There has been a coordinated approach to addressing the challenge of alien invasive organisms through complementary methods including biological control agents for invasive plants both inside and outside of parks through an integrated approach to fire and alien invasive management. Additionally, previous concerns regarding the governance of the property have been addressed through improved coordination of the Joint Management Committee through enhanced participation of the Chief Executive Officers of all three management authorities. However, there remain significant shortcomings on behalf of the management bodies in finalising the individual management plans of each of the thirteen clusters which comprise the site. The finalisation of these management plans, would facilitate the development of the Integrated Management Plan called for by the Committee, and should therefore be an immediate priority.

► Assessment of the effectiveness of protection and management in addressing threats outside the site

Some Concern

Most of the nominated sites are in remote country, buffered by adjacent reserves and exist within a well-developed legal framework. They are part of the region-wide conservation framework. An integrated approach to fire and invasive alien management has been adopted both inside and outside of parks. The recent confirmation of the State Party's increased allocation of funds for the effective management of CFRPA is encouraging and the outcomes of such efforts are to be anticipated but cannot yet be assessed.

► Best practice examples

The integrated approach to fire and alien invasive plant management adopted both inside and outside of parks. CapeNature has adopted a Working on Fire Programme to manage fires, and has trained and equipped 1,056 fire-fighting recruits since 2004. Fire Records database and an Alien Invasive Plant database are maintained along with a Bio Control Agent database which is also being developed to add a further layer to support more efficient catchment management planning across

the CFR. Unfortunately due to the budget cuts critical vacancies have not been filled and these databases are not managed optimally and analysis of the data is not always possible. The National monitoring exercises, that include the South African Bird Atlas Project 2, the South African Bird-ringing Project, the Birds in Reserves Project, Frog Atlas Project, the Nest Record Card Scheme, the Information System for Endangered Plants

State and trend of values

Assessing the current state and trend of values

World Heritage values

► **Outstanding diversity, density and endemism of flora**

Low Concern
Trend: Stable

No reports of any significant loss of diversity within the component sites could be found. The impacts from invasive alien plant species and wild fires are the two greatest threats on the rare, endemic species that characterise this site. There are indications that slow maturing species of reseeding Proteaceae are being negatively impacted by the increased fire frequency, with knock-on impacts on fynbos endemic birds. However it should be noted that different Proteaceae species exhibit different seeding and fire regiment properties. It has been documented that the numbers of *Mimetes hottentoticus*, an extremely localised endemic listed as rare, has declined in the Boland Mountains and most populations are now confined to rocky refugia. Several other species indicate a similar trend. More widespread monitoring information concerning the conservation status of rare flora across CFRPA is required but in general, no detrimental impacts of fire has been reported so far.

► **Ongoing ecological and biological processes associated with the evolution of the unique Fynbos biome**

Low Concern
Trend: Deteriorating

No reports could be found showing any significant damage to the reserves in which these processes are occurring. That said the increasing size, frequency and intensity of fires due to invasive alien woody plants and climate change remains a concern.

Summary of the Values

► **Assessment of the current state and trend of World Heritage values**

Low Concern
Trend: Stable

Within the protected areas of the Cape Floral Region, the diversity, density and endemism of the flora as well as the associated evolutionary processes are of low concern overall. Active management efforts are continuing to address the invasive alien plants in CFRPA, with the State Party reporting a decline in their coverage. However uncertainty exists regarding accelerated impacts of climate change and how it interacts with the other existing threats.

Additional information

Benefits

Understanding Benefits

► **Carbon sequestration,
Soil stabilisation,
Flood prevention,
Water provision (importance for water quantity and
quality),
Pollination**

Water catchment, water flow regulation, erosion control, climate amelioration. Carbon sequestration and storage, pollination for crops.

Factors negatively affecting provision of this benefit :

- Climate change : Impact level - Moderate, Trend - Increasing
- Pollution : Impact level - Low, Trend - Continuing
- Overexploitation : Impact level - Low, Trend - Continuing
- Invasive species : Impact level - High, Trend - Increasing
- Habitat change : Impact level - Low, Trend - Continuing

► **History and tradition,
Wilderness and iconic features**

Cultural and historical sites and wilderness and iconic features.

Factors negatively affecting provision of this benefit :

- Climate change : Impact level - Low, Trend - Continuing
- Pollution : Impact level - Low, Trend - Continuing
- Overexploitation : Impact level - Low, Trend - Continuing
- Invasive species : Impact level - Moderate, Trend - Increasing
- Habitat change : Impact level - Low, Trend - Continuing

► **Importance for research**

Scientific research (important resource for building knowledge on, ecological processes, evolutionary trends, taxonomy.....)

Factors negatively affecting provision of this benefit :

- Climate change : Impact level - Moderate, Trend - Increasing
- Pollution : Impact level - Low, Trend - Continuing
- Overexploitation : Impact level - Low, Trend - Continuing
- Invasive species : Impact level - Moderate, Trend - Increasing
- Habitat change : Impact level - Low, Trend - Increasing

► **Outdoor recreation and tourism**

Mountaineering and hiking, nature tourism, cultural tourism, scientific tourism

Factors negatively affecting provision of this benefit :

- Climate change : Impact level - Moderate, Trend - Increasing
- Pollution : Impact level - Low, Trend - Continuing
- Overexploitation : Impact level - Low, Trend - Continuing
- Invasive species : Impact level - Moderate, Trend - Increasing
- Habitat change : Impact level - Low, Trend - Increasing

► **Direct employment**

Park management, interpretation, education and tourism, fire and alien plant control all generate jobs.

► **Collection of genetic material**

The large species diversity provides a potential genetic resource for phyto-chemicals and plant oils

Factors negatively affecting provision of this benefit :

- Climate change : Impact level - Moderate, Trend - Increasing
- Pollution : Impact level - Low, Trend - Continuing
- Overexploitation : Impact level - Low, Trend - Continuing
- Invasive species : Impact level - Moderate, Trend - Increasing
- Habitat change : Impact level - Low, Trend - Continuing

Summary of benefits

The site provides various goods and services and plays a critical role in water security. South Africa is a water scarce country and there is need to secure and conserve these resources. Many of the properties that make up the site form part of the upper catchment and in some cases supply water to large metropolitan areas. Some key beneficiaries are people living in urban areas such as Cape Town and Port Elizabeth. Securing ecological infrastructure including intact freshwater ecosystems is critical to ensure resilience in the face of anticipated climate change. Eco-Tourism has played an important role in job creation at the local, regional and national level. The protected areas also implement the EPIP programmes, which is primarily aimed at poverty alleviation and skills development. The 1st National Biodiversity Assessment report (NBA, 2011) produced by the South African National Biodiversity Institute (SANBI) highlights the role that that protected areas play in supporting rural livelihoods in areas with marginal agricultural activities.

CFRPA World Heritage site has a global value in securing the conservation of a large portion of the endemic flora of the Cape Floral Kingdom, a global biodiversity hotspot.

Projects

Compilation of active conservation projects

No	Organization	Brief description of Active Projects	Website
1	University of Cape Town: Animal Demography Unit	National monitoring exercises that include or focus on CFR: the South African Bird Atlas Project 2, the South African Bird-ringing Project, the Birds in Reserves Project, Frog Atlas Project, Penguin-Watch , Southern African Butterfly Conservation Assessment, Mammal Map, etc	http://adu.org.za
2	"Working for.. "programs (Water, wetlands , fire)	Part of the South African Government's initiative to create jobs and to alleviate poverty by providing biodiversity related jobs, to control alien invasive plants, fight fire and improve wetlands.	http://www.dwaf.gov.za/wfw/ www.workingonfire.org/ http://wetlands.sanbi.org/
3	CapeNature: Save our fynbos fish	The indigenous fynbos fish of the Western Cape are under severe threat. The greatest threat comes from invasive alien fish, which prey on them (e.g. smallmouth bass), compete for resources (e.g. banded tilapia) and degrade their habitat (e.g. carp).	http://www.cape-nature.co.za/projects
4	CapeNature: Cederberg amphibians and reptiles project	The Greater Cederberg Biodiversity Corridor (GCBC) is one of the corridors proposed for the Cape Floristic Region (CFR). To ensure that the Cederberg Corridor will make a significant contribution to the conservation of the amphibians and reptiles in the CFR, a detailed survey of the greater Cederberg area is first required.	http://www.cape-nature.co.za/projects
5	CapeNature: The Greater Cederberg Biodiversity Corridor	The GCBC aims to establish biodiversity corridors across its landscape to ensure the establishment of healthy connected corridors of natural vegetation. These corridors include formally protected areas and natural vegetation on privately owned land	www.cederbergcorridor.org.za

Nº	Organization	Brief description of Active Projects	Website
6	ECPTA Biodiversity Stewardship program	Biodiversity agreements entered into with private landowners where their properties are included in the conservation landscape and are managed by owners under guidance of a management plan and supported by ECPTA	
7	ECPTA Baviaanskloof of Mega Reserve Landscape Initiative	The Baviaanskloof Mega Reserve landscape Initiative is one of the corridors proposed for the Cape Floristic Region (CFR). The Baviaanskloof Mega Reserve Initiative seeks to have a landscape where conservation, agriculture and eco-tourism combine to work together for the benefit of all stakeholders in the landscape.	
8	CapeNature Stewardship Programme	This programme has four levels of agreements ranging from "loose" to "contractual", that can be entered into with private landowners whose properties have conservation value. These properties then become a formal part of the conservation estate. Those entering into a contract have the same status as a formally Protected Area. They are managed by owners under guidance of a management plan and supported by CapeNature.	http://www.cape-nature.co.za/

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