South African National Biodiversity Institute (SANBI)

General information

Institution	South African National Biodiversity Institute
Legal name	As above
Foundation year	2004
Name of the Director General or Head of the institution	Dr Tanya Abrahamse
Brief description of the Scientific Mission of your institution	Play a leadership role in generating, coordination and interpreting the knowledge and evidence required to support policies and decisions relating to all aspects of biodiversity
Brief description of the vision of your institution	SANBI's mission is biodiversity richness for all South Africans
Main objectives or lines of action	• Manage and unlock benefits of the network of National Botanical Gardens as windows into South Africa's biodiversity • Build the foundational biodiversity science through describing and classifying species and ecosystems in South Africa • Assess, monitor and report on the state of South Africa's biodiversity and increase knowledge for decision making (including adaptation to climate change) • Provide biodiversity policy advice and access to biodiversity information and support for climate change adaptation • Provide human capital development, education and awareness in response to SANBI's mandate
Biodiversity related objectives	As above

SANBI's contribution to the Strategic Plan for Biodiversity 2011-2020 and the Aichi Targets

Objective / Aichi Target			Yes	Partially	No	NA	Main actions performed (for 2011-2016):
A	1	 *Public awareness*	Does your institution develop actions aimed to strengthen awareness, concern and knowledge about biodiversity?				
			X				Develop and fund a coordinated national biodiversity communications, education and awareness strategy, implementation plan and monitoring framework Implement the national biodiversity communications, education and awareness strategy, implementation plan and monitoring framework Strengthen environmental literacy through citizen science programmes that promote learning and common knowledge about biodiversity Strengthen the integration and teaching of biodiversity content in relevant school curricula Establish a process for extracting and disseminating key policy and management relevant information and messages from research, planning and assessment for decision-makers Conceptualise and pilot biodiversity economy nodes, as a model for demonstrating multiple benefits from the wildlife economy through partnerships
	2	 *Valorization*	Do some of the activities that your institution carries out contribute to the valuation of biodiversity and ecosystem services, contributing to achieve poverty reduction and sustainable development?				
			X				Map species, ecological and socio-economic features that should inform spatial prioritisation, such as areas that are important for ecological infrastructure, ecosystem-based adaptation or climate change resilience, and areas where demand for ecosystem services is high Integrate the value of biodiversity into national accounting and reporting systems Incorporate the Human Capital Development needs of the biodiversity sector into national skills development systems Integrate biodiversity into the management

Objective / Aichi Target			Yes	Partially	No	NA	Main actions performed (for 2011-2016):
							of natural resources through local-level structures (e.g. Fire Protection Associations, Soil Conservation Committees, Water User Associations, Communal Property Associations) Integrate biodiversity considerations into the development of management plans at various levels, such as coastal management plans, water resource classification, land capability and agricultural zoning Integrate biodiversity priority areas into spatial development frameworks (SDFs), integrated development plans (IDPs) and land-use management systems (LUMs) Improve alignment and streamlining of water and environmental regulations and authorisations for various land- and sea-use activities (mariculture, aquaculture, agriculture, forestry, mining) that affect biodiversity Update biodiversity sector plans and bioregional plans regularly, ideally at least every five to ten years Develop an effective national mechanism for coordinating biodiversity and other green skills capacity development planning, initiatives and skills intelligence, within the sector and sectors impacting on biodiversity management Establish a process for extracting and disseminating key policy and management relevant information and messages from research, planning and assessment for decision-makers Implement and maintain new and existing science-based biodiversity tools to inform planning and decision-making Build absorption capacity for labour intensive programmes of work in the sector Develop new science-based biodiversity tools, including incentives, to inform planning and decision-making
	3		Does your institution develop actions aimed at countering the effects of harmful incentives for biodiversity or promote the application of incentives with positive effects on biodiversity?				

Objective / Aichi Target			Yes	Partially	No	NA	Main actions performed (for 2011-2016):
		 *Incentives*	X				Review and remove perverse incentives that hinder biodiversity management and conservation, such as a loss of rates revenue for municipalities from green servitudes and biodiversity stewardship Develop and strengthen economic incentives to encourage appropriate investment by the private sector in biodiversity management and conservation, such as tax incentives, conservation agriculture incentives to farmers and others Explore and develop alternative financial instruments beyond the fiscus to increase the pool of non-state resources available for biodiversity, such as taxes on hunting permits and operations Review and amend natural resource pricing to leverage finance for biodiversity management and conservation, such as the water pricing strategy Implement and maintain new and existing science-based biodiversity tools to inform planning and decision-making Develop new science-based biodiversity tools, including incentives, to inform planning and decision-making
	4	 *Sustainable Production*	Has your institution developed and/or promoted scientific knowledge and/or technology innovation that promote sustainable production and/or consumption (including within your institution)?				
			X				Integrate biodiversity priorities into key production sector strategies and plans, including for agriculture, mariculture, aquaculture, mining, forestry, water, land reform and rural development, through cooperative approaches Establish integrated programmes to support sustainable use of threatened species including medicinal species and horticultural plants, including propagation programmes, to relieve pressure on harvesting Integrate biodiversity considerations into production sector codes of conduct and best practice guidelines Maintain an effective Scientific Authority that provides scientific oversight for species in trade Develop a strategy to sustainably optimise the biodiversity-based tourism sector

Objective / Aichi Target			Yes	Partially	No	NA	Main actions performed (for 2011-2016):
							Develop systematic approach, including methods, techniques, and expertise, for mapping ecological infrastructure Improve the enforcement of trade regulations Strengthen collaboration for compliance and enforcement
			Has your institution carried out actions that contribute to a decrease in the rate of loss of natural habitats?				
B	**5**	 *Habitat loss*	**X**				Revise and update the National Biodiversity Assessment at least every seven years, including an assessment of ecosystem threat status for all national ecosystem types Review and expand Red Lists for priority taxa and assess all new species and species in areas targeted for development Set quantitative biodiversity targets for all national ecosystem types and for threatened, endemic, indicator, flagship and high-value useful species Map species, ecological and socio-economic features that should inform spatial prioritisation, such as areas that are important for ecological infrastructure, ecosystem-based adaptation or climate change resilience, and areas where demand for ecosystem services is high Improved compliance of recreational activities with permits in coastal, marine and other ecosystems Integrate biodiversity into the management of natural resources through local-level structures (e.g. Fire Protection Associations, Soil Conservation Committees, Water User Associations, Communal Property Associations) Integrate biodiversity considerations into the development of management plans at various levels, such as coastal management plans, water resource classification, land capability and agricultural zoning, and invasive management plans Integrate biodiversity priority areas into spatial development frameworks (SDFs), integrated development plans (IDPs) and land-use management systems (LUMs) Improve alignment and streamlining of water and environmental regulations and

Objective / Aichi Target			Yes	Partially	No	NA	Main actions performed (for 2011-2016):
							authorisations for various land- and sea-use activities (mariculture, aquaculture, agriculture, forestry, mining) that affect biodiversity Update biodiversity sector plans and bioregional plans regularly, ideally at least every five to ten years Develop new science-based biodiversity tools, including incentives, to inform planning and decision-making Map national ecosystem types in terrestrial, freshwater and marine environments Maintain and formalise the National Ecosystem Classification System Implement and maintain new and existing science-based biodiversity tools to inform planning and decision-making Regularly map key pressures on biodiversity, including land cover, trawling activities, areas of operation for fisheries in marine ecosystems, invasive alien species density and distribution
	6	*Sustainable management of fishes and invertebrates*	Has your institution developed or implemented scientific knowledge and/or technology and innovation to promote the sustainable extraction and recovery of species of fish, invertebrates and aquatic plants, or that have contributed to reduce illegal fishing or incidental catch?				
				X			Develop a strategy to sustainably optimise the marine wildlife sector Establish integrated programmes to support sustainable use of threatened species including marine species, to relieve pressure on harvesting Maintain an effective Scientific Authority that provides scientific oversight for species in trade Expand the protected area estate through the declaration of state-owned protected areas, Marine Protected Areas, and biodiversity stewardship sites, based on the National Protected Area Expansion Strategy Map national ecosystem types in terrestrial, freshwater and marine environments
	7	*Sustainable primary sector*	Does your institution promote and contribute to the sustainable management of agricultural land, and/or farming of aquatic organisms, and/or forests?				
			X				Integrate biodiversity priorities into key production sector strategies and plans, including for agriculture, mariculture, aquaculture, mining, forestry, water, land

Objective / Aichi Target			Yes	Partially	No	NA	Main actions performed (for 2011-2016):
							reform and rural development, through cooperative approaches Integrate biodiversity considerations into production sector codes of conduct and best practice guidelines Improve alignment and streamlining of water and environmental regulations and authorisations for various land- and sea-use activities (mariculture, aquaculture, agriculture, forestry, mining) that affect biodiversity
	8	*Pollution reduction*	Does your institution carry out actions to control, monitor and/or improve water pollution, and/or ocean and coast pollution, and/or soil pollution, and/or solid waste pollution, and/or air pollution?				
			X				Support the implementation of objectives on water resource protection in the National Water Resource Strategy (NWRS) Improve alignment and streamlining of water and environmental regulations and authorisations for various land- and sea-use activities (mariculture, aquaculture, agriculture, forestry, mining) that affect biodiversity Integrate biodiversity priorities into key production sector strategies and plans, including for agriculture, mariculture, aquaculture, mining, forestry, water, land reform and rural development, through cooperative approaches Integrate biodiversity considerations into production sector codes of conduct and best practice guidelines
	9	*Invasive species*	Does your institution develop actions aimed at the identification, prevention, control and eradication of exotic invasive species?				
			X				Reduce invasions through interventions at ports of entry and coordinated species management programmes Review lists for Invasive Alien Species (IAS), TOPS, CITES every five years, based on new data Develop, implement, review and amend regulations that deal with the management and protection of species and activities that impact on species Regularly map key pressures on biodiversity, including landcover, trawling activities, areas of operation for fisheries in marine ecosystems, invasive alien species density

Objective / Aichi Target			Yes	Partially	No	NA	Main actions performed (for 2011-2016):
							and distribution Finalise and implement National Biodiversity Monitoring Framework, which will include monitoring the status and trends for priority harvested marine resources, impact of trade in wildlife and wild plants on biodiversity including change in status in TOPS and CITES listed species, invasive alien species, their impacts and the effectiveness of control measures, change in status of Red Listed species and impacts of interventions / ongoing pressures, the impacts of Genetically Modified Organisms on biodiversity assets and ecological infrastructure, the impacts of climate change on species and ecosystem Review lists for IAS, TOPS, CITES every five years, based on new data
	10	*Pressures on vulnerable ecosystems*	Does your institution develop scientific knowledge and/or technology and innovation to reduce the anthropogenic pressure factors and maintain integrity and functioning of coral reefs and/or other ecosystems vulnerable to climate change?				
			X				Map species, ecological and socio-economic features that should inform spatial prioritisation, such as areas that are important for ecological infrastructure, ecosystem-based adaptation or climate change resilience, and areas where demand for ecosystem services is high Develop a tool that uses biodiversity data to provide an early warning system and/or predictive scenarios for issues such as climate change, land use impacts, or new and emerging technology such as synthetic biology Develop and maintain an overarching implementation plan for Ecosystem-based Adaptation Develop an Ecosystem-based Adaptation Guideline Document and criteria for Ecosystem-based Adaptation project identification Identify and develop 4 Ecosystem-based Adaptation pilots at the municipal level in each of South Africa's 9 biomes that beneficiate communities Develop a programme of work on Ecosystem-based Adaptation that scales up the pilot phase

Objective / Aichi Target			Yes	Partially	No	NA	Main actions performed (for 2011-2016):
C	11	 *Protected Areas*	Does your institution develop scientific knowledge and/or technology and innovation that promote or contribute the efficient management, representativeness, connectivity and integration landscape of protected areas (terrestrial, and/or marine and coastal) or the creation/incorporation of new public, private or community conservation areas?				
			X				Expand the protected area estate through the declaration of state-owned protected areas, Marine Protected Areas, and biodiversity stewardship sites, based on the National Protected Area Expansion Strategy Expand the conservation area estate through mechanisms under the Biodiversity Act, contract law and other informal agreements between the landowner and conservation authority Determine institutional mechanisms and business case for the expansion of the conservation estate, including the range of incentives available Strengthen the institutional capacity of biodiversity stewardship programmes and the suite of non-financial incentives (such as access to technical expertise) to enhance their contribution to protected area expansion Develop and finalise a tool to assess management effectiveness of conservation areas and protected areas that are not covered by the existing National Management Effectiveness Tracking Tool (METT) Strengthen the National Land Reform Biodiversity Stewardship Initiative Revise and update the National Biodiversity Assessment at least every seven years, including an assessment of ecosystem threat status for all national ecosystem types
	12	 *Threatened Species*	Does your institution develop scientific knowledge and/or technology and innovation to promote and contribute to the effective protection of threatened species?				
			X				Review and expand Red Lists for priority taxa and assess all new species and species in areas targeted for development Review lists for IAS, TOPS, CITES every five years, based on new data Establish integrated programmes to support sustainable use of threatened species including medicinal species and horticultural

Objective / Aichi Target			Yes	Partially	No	NA	Main actions performed (for 2011-2016):
							plants, including propagation programmes, to relieve pressure on harvesting Set quantitative biodiversity targets for all national ecosystem types and for threatened, endemic, indicator, flagship and high-value useful species Map species, ecological and socio-economic features that should inform spatial prioritisation, such as areas that are important for ecological infrastructure, ecosystem-based adaptation or climate change resilience, and areas where demand for ecosystem services is high Revise and update the National Biodiversity Assessment at least every seven years
	13	 *Genetic diversity*	Does your institution develop scientific knowledge and/or technology and innovation to reduce the anthropogenic pressure factors and maintain integrity and functioning of coral reefs and/or other ecosystems vulnerable to climate change?				
			X				Finalise and implement National Biodiversity Monitoring Framework, which will include monitoring the status and trends for priority harvested marine resources, impact of trade in wildlife and wild plants on biodiversity including change in status in TOPS and CITES listed species, invasive alien species, their impacts and the effectiveness of control measures, change in status of Red Listed species and impacts of interventions / ongoing pressures, the impacts of Genetically Modified Organisms on biodiversity assets and ecological infrastructure, the impacts of climate change on species and ecosystem Revise and update the National Biodiversity Assessment at least every seven years Genetic diversity of 400 indigenous edible plant species and crop traditional varieties conserved in gene banks (outcomes in the National Plant Conservation Strategy) Priority crop wild relatives conserved in situ and ex situ (outcomes in the National Plant Conservation Strategy)
D	**14**	 *Restoration*	Has your institution developed scientific knowledge and/or technology and innovation for the restoration and recovery of ecosystem services taking into consideration the needs of women, indigenous and local communities and the poor and vulnerable?				
			X				Develop systematic approach, including methods, techniques, and expertise, for

Objective / Aichi Target			Yes	Partially	No	NA	Main actions performed (for 2011-2016):
							mapping ecological infrastructure Develop and implement methods and approaches for assessing the status of ecological infrastructure Map species, ecological and socio-economic features that should inform spatial prioritisation, such as areas that are important for ecological infrastructure, ecosystem-based adaptation or climate change resilience, and areas where demand for ecosystem services is high Scale up efforts to restore degraded ecological infrastructure and maintain ecological infrastructure in good condition, including government led programmes Support the implementation of chapter 5 (water resource protection) of the National Water Resource Strategy (NWRS) Improve how biodiversity assets and ecological infrastructure are incorporated into the planning of Department of Environmental Affairs Natural Resource Management programmes
	15	*Resilience*	Has your institution developed scientific, technical and/or technological actions of ecological restoration and rehabilitation? How many actions since 2011 and is the approximate restored area of degraded ecosystems within the framework of these actions?				
			X				Develop systematic approach, including methods, techniques, and expertise, for mapping ecological infrastructure Develop and implement methods and approaches for assessing the status of ecological infrastructure Scale up efforts to restore degraded ecological infrastructure and maintain ecological infrastructure in good condition, including government led programmes such as Department of Environmental Affairs Working for Water, Working for Wetlands and other, and Department of Agriculture, Forestry and Fisheries, SoilCare, VeldCare, LandCare etc Improve how biodiversity assets and ecological infrastructure is incorporated into the planning of the Department of Environmental Affairs' Natural Resource Management Programmes Ensure better alignment between LandCare

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							and Natural Resource Management Programmes Map species, ecological and socio-economic features that should inform spatial prioritisation, such as areas that are important for ecological infrastructure, ecosystem-based adaptation or climate change resilience, and areas where demand for ecosystem services is high Develop and maintain an overarching implementation plan for Ecosystem-based Adaptations Develop an Ecosystem-based Adaptation Guideline Document and criteria for Ecosystem-based Adaptation project identification Idetify and develop 4 Ecosystem-based Adaptation pilots at the municipal level in each of South Africa's 9 biomes that beneficiate communities Develop a programme of work on Ecosystem-based Adaptation that scales up the pilot phase
	16	*Nagoya Protocol*	Have you heard of the Nagoya Protocol, and has your institution developed scientific, technical and/or technological actions linked to it?				
			X				Finalise and implement National Biodiversity Monitoring Framework, which will include monitoring the status and trends for priority harvested marine resources, impact of trade in wildlife and wild plants on biodiversity including change in status in TOPS and CITES listed species, invasive alien species, their impacts and the effectiveness of control measures, change in status of Red Listed species and impacts of interventions / ongoing pressures, the impacts of Genetically Modified Organisms on biodiversity assets and ecological infrastructure, the impacts of climate change on species and ecosystems Promote engagement between practitioners and researchers through existing national forums
E	**17**	*NBSAP update*	Has your institution collaborated in the elaboration and/or implementation of the National Biodiversity Strategy of its country, or any other biodiversity strategy at a sub-national level or equivalent?				
			X				Develop the implementation plan for the South African National Biodiversity Research Strategy, including carrying out a gap analysis

Objective / Aichi Target			Yes	Partially	No	NA	Main actions performed (for 2011-2016):
							to identify priority research and data needs such as for the NBSAP Address priority research questions as identified in the gap analysis through network of researchers and institutions
	18	 *Traditional Knowledge*	Does your institution integrate traditional knowledge, innovations and practices of indigenous and local communities relevant for the conservation and sustainable use of biodiversity?				
				X			Capture and safeguard indigenous knowledge linked to biodiversity through the National Recordal System Identify, expand and monitor citizen science contributions to the status of species and ecosystems, ensuring appropriate data quality Strengthen environmental literacy through citizen science programmes that promote learning and common knowledge about biodiversity
	19	 *Knowledge, science and technology*	Does your institution generate scientific, technical and/or technological information on biodiversity? How does your institution consider that the availability of useful information on biodiversity (assessment, monitoring, inventories, studies, etc.) is in your country?				
			X			NA	Examples of information generated in conservation, values, functioning, status, trends, impacts of loss, sustainable use or others SANBI regularly produces a national biodiversity assessment for South Africa
			Sufficient	Limited **X**	Scarce		Indicate relevant gaps of information and information available and its sources **Gaps in Information** • Monitoring and assessment of biodiversity • Unlocking the Biodiversity Economy • Unlocking benefits from investments in ecological infrastructure • Interventions for mitigating loss of biodiversity http://biodiversityadvisor.sanbi.org/ **Below is a list of SANBI's online information resources with a short description of each site** • Biodiversity GIS (BGIS) BGIS makes spatial biodiversity information available for planning and decision making. The spatial information can be used online in

Objective / Aichi Target			Yes	Partially	No	NA	Main actions performed (for 2011-2016):
							an interactive map or downloaded from the website to be used locally Visit BGIS (http://bgis.sanbi.org/) • South African Biodiversity Information Facility (SABIF) SABIF is the South African node of the Global Biodiversity Information Facility (GBIF). SABIF promotes data sharing and builds capacity towards ensuring that biodiversity data makes a positive contribution to research Visit SABIF (http://biodiversityadvisor .sanbi.org/online-biodiversity-data/sabif-3/) • iSpot Southern Africa Citizen scientists can capture images and share identifications, comments and knowledge through this unique portal Visit iSpot (http://www.ispot.org.za/) • Red List of South African Plants This is an online version of SANBI's Red List of South African plants Visit the Red List (http://redlist.sanbi.org/) • Plants of Southern Africa (POSA) The Plants of Southern Africa website provides plant nomenclature and floristic information for Southern African taxa Visit POSA (http://posa.sanbi.org/) • Species Status Database The Species Status Database provides a centralized storage location for information on the status of South African species Visit the Species Status Database (http://speciesstatus.sanbi.org/)
	20	*Funding*	What is the approximate percentage of your institution's annual budget destined for the implementation of scientific, technical and/or technological actions aimed for the conservation and sustainable use of biodiversity and ecosystem services and does your institution have fundraising strategies for this purpose?				
			X				SANBI's annual budget covers biodiversity research;policy support; information management; and the management of South Africa's National Botanical Gardens Fundraising strategy and initiatives: Develop, implement and sustainably fund biodiversity management and/or recovery plans for prioritised species of special concern Mobilise funds and other resources, implement, document learning and showcase results from pilot Ecosystem based

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							adaptation projects Coordinate resource mobilisation for biodiversity management, initially supported by the implementation of the UNDP/Department of Environmental Affairs BIOFIN Project Coordinate through intergovernmental structures the integration of biodiversity considerations into budgeting process of national, provincial and municipal budgets biodiversity Engage with funding agencies and research community to align funding grants and allocations in support of priority projects