

THE SOUTH AFRICAN CRITERIA, INDICATORS AND MANAGEMENT GOALS FOR SUSTAINABLE FOREST MANAGEMENT

DRAFT 5 (September 2015) FOR COMMENT

CRITERION 1: FORESTS ARE PROTECTED

Definition: According to the National Forests Act No. 84 of 1998, "forest" includes:

- (a) a natural forest, a woodland¹ and a plantation;
- (b) the forest produce in it; and
- (c) the ecosystems which it makes up;

Forests also incorporate a range of natural habitats such as grasslands, wetlands and riparian zones, rocky outcrops, etc. Therefore protection of these natural habitats is also included under this Criterion.

Indicator 1.3: Implementation of forest protection practices

Measure 1.3.1. Control of alien invasive species (AIS)

Management Goal 1: Infestations of AIS are identified and classified in terms of the National Environmental Management Biodiversity Act (NEMBA) AIS Regulations

Management Goal 2: Adequate resources are allocated to control² the extent and intensity of AIS and the controls are monitored to adapt control measures if required

Management Goal 3: Records are maintained and submitted on the extent and intensity of infestations and effectiveness of control measures (i.e. changes in extent and intensity of infestation) (Green Mamba 2)

Measure 1.3.2. Protection from negative impacts of fire

Management Goal 1: A fire protection plan is prepared and adequately resourced to prevent uncontrolled fires

Management Goal 2: Activities are implemented to minimise the risk of uncontrolled fires in compliance with legislation and best practice for fires prevention³

¹ Sustainable management of woodlands is excluded from the purposes of this set of PCI&S, due to their complexity woodlands will be addressed in a separate standard.

² NEMBA AIS regulations specifies that "control", in relation to an alien or invasive species, mean-(a) to combat or eradicate an alien or invasive species; or (b) where such eradication is not possible, to prevent, as far as may be practicable, the recurrence, re-establishment. re-growth, multiplication, propagation, regeneration or spreading of an alien or invasive species

³ National Veld and Forest Fires Act - Chapters 4 –Requirements for Fire Breaks, and Chapter 5 - Firefighting (readiness, equipment, neighbours etc)

Management Goal 3: Records are maintained and submitted on the cause of fires and extent of damage from fires (Green Mamba 2 and Fire Association reports)

Measure 1.3.3. Control of pests and diseases

Management Goal 1: Infestations and damage by pests and diseases is identified and appropriate control measures are implemented in line with best practice

Management Goal 2: Adequate resources are allocated to control pests and diseases and the effectiveness of the controls is monitored to adapt control measures if required

Management Goal 3: Reporting obligations for infestations, loss and damage by pests and diseases on the FMU are met (Green Mamba 2)

Measure 1.3.4. Protection from damage by forestry operations

Management Goal 1: Adequate planning and resources are allocated to prevent damage to forests and natural areas during forestry operations

Management Goal 2: Interventions are implemented to avoid, mitigate or rehabilitate damage

Measure 1.3.5: Protection from unsustainable, illegal and other unauthorised activities in natural areas (including over grazing by domestic livestock, hunting, unsustainable harvesting of timber and non-timber forest products; collection without permits)

Management Goal 1: Adequate resources are allocated to control unsustainable harvesting activities and prevent illegal activities

Management Goal 2: Records are maintained and submitted on incidence and extent of illegal or unauthorised activities and the effectiveness of measures to prevent further incidence (Green Mamba 2)

Indicator 1.4: Conservation of biodiversity

Note: The term Species of Special Concern applies to species that warrant special attention because of evidence of decline, inherent vulnerability to environmental deterioration, or habitat modification, or for which there is little understanding of their current population status. Such Species of Special Concern include local endemics and otherwise rare and threatened species. Species of Special Concern protection and monitoring programmes that are operated by nationally or provincially recognised state or privately funded groups have been widely established to enhance conservation of nationally or provincially recognised Species of Special Concern.

Measure 1.4.1. Protection of Species of Special Concern

Management Goal 1: The likely presence of species of special concern (including those specially protected by legislation) is assessed based on appropriate biodiversity information

Management Goal 2: Best conservation practices are implemented to protect species of special concern likely to occur on the FMU, and forestry operations are planned and managed to prevent adverse impacts to these species and their habitats

Management Goal 3: Species of special concern are monitored in collaboration with Species of Special Concern protection and monitoring programmes,

and recovery plans are implemented where negative impacts occur

Indicator: 1.5: Maintenance of natural habitats and ecosystem functioning

Measure 1.5.1: Protection of natural habitats⁴ to maintain ecosystem functioning for the delivery of ecosystem services

***Management Goal 1:** Adequate resources are allocated and interventions implemented to protect natural habitats to maintain ecosystem functioning and enhance carbon storage potential (i.e. maintain standing stock, soil conservation, nutrient cycling, appropriate burning practices, etc.)*

***Management Goal 2:** Adequate resources are allocated to rehabilitate degraded natural habitats and the effectiveness of the rehabilitation is monitored to inform adaptation if required*

Measure 1.5.2: Conservation of Critical Biodiversity Areas⁵ (CBAs)

***Management Goal 1:** If the FMU forms part of a CBA, management activities align with the conservation goals set for the CBA.*

***Management Goal 2:** CBAs occurring on the FMU are monitored in collaboration with conservation authorities and recovery plans are implemented where negative impacts occur*

CRITERION 2: BIODIVERSITY OF NATURAL FORESTS IS CONSERVED

Merged with Criterion 1

***Motivation:** Conservation of biodiversity is a component of protection of natural forests, which is addressed under Criterion 1. These indicators are therefore incorporated under Criterion 1.*

CRITERION 3: NATURAL FOREST ECOSYSTEMS ARE CONSERVED AND PROCESSES MAINTAINED

Merged with Criterion 1

***Motivation:** Conservation of ecosystems and ecosystem processes is a component of protection of forests, which is addressed under Criterion 1. These indicators are therefore incorporated under Criterion 1.*

CRITERION 4: MEASURES ARE TAKEN TO PROTECT PLANTATIONS FROM NEGATIVE EFFECTS OF FIRE, PESTS AND DISEASES AND ALIEN INVADER PLANTS

⁴ This protection includes both the prevention of loss of habitat and the decline in habitat quality as a consequence of, for example, inappropriate fire or herbivory regimes, alien species invasion, the loss of key biodiversity elements of ecosystem processes.

⁵ Critical Biodiversity Areas (CBAs) are defined as features critical for the conservation of biodiversity and maintenance of ecosystem functioning and should remain in a natural state as far as possible.

Merged with Criterion 1

Motivation: Plantations are defined as forests in the National Forest Act and the indicators dealing with protection of plantations from fire, pests and diseases, and alien invader plants are therefore merged with the indicators under Criterion 1 to avoid duplication.

CRITERION 5: PRODUCTION POTENTIAL IS MAINTAINED OR IMPROVED

Indicator 5.6: Tree species are matched to site conditions to optimise productive potential

Measure 5.6.1. Calculation and monitoring of growth rates

Management Goal 1: Commercial tree species are selected to meet the forest management objectives within the capacities and the abilities of the sites.

Management Goal 2: Growth rates are consistent with growth for the region

Indicator 5.7: Silviculture systems are locally appropriate for forestry operation

Measure 5.7.1. Identification and implementation of appropriate silviculture practices

Management Goal: Long term productive capacity of the FMU is maintained or enhanced through implementation of appropriate silvicultural practices

Indicator 5.8: Harvest rates maintain productive capacity, carbon sequestration and storage potential

Measure 5.8.1: Alignment of harvesting operations with the long term productive capacity of the FMU

Management Goal: Annual harvest does not exceed the annual increment, or where this is exceeded this is justified and a plan of how any over-cutting is to be compensated for in future, is prepared

Measure 5.8.2. Maintenance of carbon sequestration and storage potential

Management Goal 1: The growing stock (standing volume) of the FMU is maintained or increased over consecutive rotations, or where this is not achieved a justification can be provided

Management Goal 2: Records are maintained and submitted on the average age per species per product rotation period (calculated from Green Mamba info already submitted?)

Measure 5.8.3. Sustainable harvesting of non-timber forest products⁶

Management Goal 1: Adequate resources are allocated and interventions implemented to control and monitor authorised harvesting of non-timber forest products

Management Goal 2: A precautionary approach is implemented to allocate harvesting permits and control harvesting of timber and non-timber forest products where no information is available on sustainable yields⁷

Management Goal 3: Records are maintained and submitted annually on the quantities of each species which are legally harvested (*Green Mamba 2*)

Indicator 5.9. Minimisation of temporary unplanted areas

Measure 5.9.1. Management of the extent of timber production area that is unplanted

Management Goal 1: Temporary unplanted areas are replanted within 12 months of being harvested

Management Goal 2: In the case of losses due to natural disasters, replanting is undertaken as soon as possible

Indicator 5.10: Minimisation of waste of marketable forest products

Measure 5.10.1. Efforts to minimise waste of utilisable products

Management Goal 1: No waste of usable and economically viable products is left in harvested compartments

Management Goal 2: Opportunities are offered to contractors or local stakeholders to salvage waste not utilisable by the FMU

CRITERION 6: SOIL AND WATER RESOURCES ARE CONSERVED

Indicator 6.2: Water resource quality is maintained

Measure 6.2.3. Prevention of negative impacts to water resources

Management Goal: Forestry operations are planned and implemented to avoid direct disturbance, sedimentation and pollution of water resources

⁶ Note: This measure specifically deals with legal and authorised harvesting of non-timber forest products. Illegal activities are dealt with under measure 1.3.5

⁷ The purpose of sustainable resource use is to contribute to improved human well-being. However, unsustainable, inappropriate and uncontrolled use of resources can result in adverse impacts on biodiversity and undermine the ecosystem integrity. In the absence of data to guide calculation of sustainable yields for harvesting and collection, a precautionary approach is applied to ensure that sustainable limits are not exceeded and the integrity of the species and ecosystems is maintained.

Measure 6.2.4. Rehabilitation of disturbances, sedimentation and pollution of water resources

Management Goal: *Damage to water courses or pollution of water resources is rehabilitated⁸ and interventions monitored and adapted to ensure effectiveness*

Indicator 6.3: Maintenance of the productivity and carbon storage potential of soils

Measure 6.3.3. Prevention of soil degradation

Management Goal: *Forestry operations are planned and implemented to avoid soil degradation (including erosion, crusting, compaction etc.) and loss of stored carbon (including for example brush management, burning practices, and soil erosion control)*

Measure 6.3.4. Rehabilitation of soil degradation and eroded areas

Management Goal: *Soil degradation and eroded areas are rehabilitated and interventions monitored and adapted to ensure effectiveness*

Indicator 6.4: Riparian zones and wetlands are protected

Measure 6.4.2. Maintenance of integrity and functioning of riparian zones and wetlands

Management Goal 1: *Forestry operations are planned and implemented to avoid degradation of wetlands and riparian areas*

Management Goal 2: *Wetland delineation is undertaken according to the national delineation guideline⁹*

Measure 6.4.3. Rehabilitation of degraded wetland and riparian areas

Management Goal: *Wetlands and riparian areas that have been negatively impacted by forestry operations are rehabilitated, and interventions monitored and adapted to ensure effectiveness*

Indicator 6.5: Pollution is prevented

Measure 6.5.3. Responsible use of chemicals

Management Goal 1: *Use and storage of hazardous materials and chemicals (including all fuels, pesticides, herbicides and fertilisers) is in accordance with legislation and best practice*

⁸ PART 4 of the National Water Act covers pollution prevention and remedying emergency events (spills etc.).

⁹ The FSA environmental guideline references the National DWS Guideline (Ref: DWAF, 2005. A practical field procedure for identification and delineation of wetlands and riparian areas. Department of Water Affairs and Forestry, Pretoria).

Management Goal 2: Disposal of hazardous and chemical waste, including used containers, is in accordance with legislation and best practice

Measure 6.5.4. Rehabilitation of polluted areas

Management Goal 1: Rehabilitation of damage from incidences of pollution is undertaken as soon as they occur

Management Goal 2: Pollution incidents are investigated and interventions put in place to avoid repetition

Measure 6.5.6. Management and disposal of general waste

Management Goal: General waste disposal activities conform with legislation and best practice¹⁰

CRITERION 7: FORESTS MAKE A POSITIVE CONTRIBUTION TO THE ECONOMY

Note: FMUs with mixed operations will not be able to separate out the forestry component only for reporting purposes. However the forestry operations are an integral part of the contribution that the operation makes as a whole to the economy and therefore the report is made on the FMU as a whole.

Indicator 7.5. Contribution to employment and job creation

Measure 7.5.1. Total number of permanent and temporary jobs created

Management Goal 1: Number of jobs created on the FMU is stable or increasing, or where declining can be justified

Management Goal 2: Employment records are maintained and submitted on the total number of permanent and temporary employees (Green Mamba 2 drawn from Skill development levy report and UIF reports to SARS, etc.)

Indicator 7.6. Contribution to salaries and wages

Measure 7.6.1. Total wage bill for permanent and temporary employees

Management Goal 1: Salaries and wages equal or exceed the minimum wage determination for the sector

Management Goal 2: Records are maintained and submitted on the total value of wages paid to permanent and temporary employees (Green Mamba 2)

Indicator 7.7. Economic contribution generated from forestry operations

¹⁰ National Environmental Management Waste Act specifies the need for permits for listed types of waste - including disposal of general waste

Measure 7.7.1. Value of annual operations (as an indication of investment)

Management Goal 1: Value of annual operations is stable or increasing, or where declining can be justified

Management Goal 2: Records are maintained and submitted on the total annual operating costs of the FMU (Green Mamba 2)

Indicator 7.8. Resilience of forestry operations

Measure 7.8.1. Diversity of income streams and products

Management Goal 1: Forestry operations produce a range of products to diversify income streams

Management Goal 2: A range of species or clones and age classes are deployed where practically appropriate

Management Goal 3: The percentage contribution of each product to total income from the FMU is recorded and submitted (Green Mamba 2)

Indicator 7.9. Creation of local business opportunities

Measure 7.9.1. Contracts issued to local suppliers for operations undertaken on the FMU

Management Goal: Procurement of goods and services from local suppliers is stable or increasing, or where declining can be justified (Green Mamba 2)

Indicator 7.10. Promotion of a forest economy that is resilient to climate change

Measure 7.10.1. Investment in forestry operations and silvicultural practices that promote a forest economy that is resilient to climate change

Management Goal: Forestry operations and silvicultural practices contribute to the transition to a climate resilient forest economy (Green Mamba 2)

Measure 7.10.2. Planning and implementation of forestry operations that contribute to climate change mitigation

Management Goal 1: Planning and forestry operations contribute to the transition towards lower carbon emissions from the FMU (Green Mamba 2)

Management Goal 2: Total diesel use from forestry operations is reported annually (Green mamba 2)

CRITERION 8: THE FOREST ECONOMY IS RESILIENT

Merged with Criterion 7

Motivation: Resilience of a forestry enterprise is an important aspect of the contribution it makes to the economy. These indicators dealing with resilience are therefore incorporated under Criterion 7.

CRITERION 9: PEOPLE HAVE RIGHTS TO ACCESS AND USE FORESTS

Indicator 9.1: Opportunities for forest activities

Measure 9.1.6. Activities accommodated on the FMU

Management Goal: Requests to undertake activities on the FMU are accommodated where these do not have the potential to conflict with or impact negatively on forestry operations, or infringe on land rights

Management Goal 2: There is a formal process to resolve conflicts over requests for activities that can't be accommodated on the FMU

Measure 9.1.7. Granting of access and use by legitimate rights holders

Management Goal 1: Access and use by legitimate rights holders are understood and respected

Management Goal 2: There is a formal process to resolve disputes and conflict over access and use rights

Indicator 9.3: Forests are used responsibly by people granted access and use rights

Measure 9.3.1. Enforcement of responsible use of the FMU by people granted access and use

Management Goal: Use by people granted access to the FMU is controlled, to prevent damage or degradation to natural resources and forests

Indicator 9.4: Cultural, ecological, recreational, historical, aesthetic and spiritual sites and services are maintained

Measure 9.4.1. Protection of sites of cultural, ecological, recreational, historical, aesthetic and spiritual significance

Management Goal 1: Sites of cultural, ecological, recreational, historical, aesthetic and spiritual significance are identified

Management Goal 2: Operations are planned to protect sites of cultural, ecological, recreational, historical, aesthetic and spiritual significance

Management Goal 3: Sites of significance are rehabilitated as soon as damage occurs and interventions are monitored and adapted to ensure effectiveness

CRITERION 10: FORESTS ARE USED RESPONSIBLY

Merged with Criterion 9

Motivation: Access and use of forests is integrally linked to responsible use. These indicators are therefore incorporated under Criterion 9.

CRITERION 11: LAND TENURE OF FOREST AREAS IS CLEARLY DEFINED, RECOGNISED AND SECURE

Indicator 11.1. Security of tenure

Measure 11.1.4. Demonstration of secure tenure

Management Goal 1: Tenure can be clearly proven

Management Goal 2: A recognised process is applied to resolve any disputes over tenure or rights of occupation

Measure 11.1.5. Demarcation of boundaries

Management Goal 1: Boundaries are clearly demarcated and recognised

Management Goal 2: A recognised process is applied to resolve any disputes over the boundaries of the FMU

CRITERION 12: CULTURAL, ECOLOGICAL, RECREATIONAL, HISTORICAL, AESTHETIC AND SPIRITUAL SITES AND SERVICES ARE MAINTAINED

Merged with Criterion 9

Motivation: Sites of significance are closely linked to access and use of forests and the management responsibilities are therefore closely aligned. These indicators are therefore incorporated under Criterion 9.

CRITERION 13: DISTRIBUTION OF EMPLOYMENT BENEFITS FROM FORESTRY IS FAIR

Note: Forest owners and managers take responsibility for ensuring compliance by all contractors

Indicator 13.4: Compliance with labour legislation and best practice

Measure 13.4.1. Evidence of compliance with labour legislation

Management Goal 1: Monitoring of compliance with labour legislation is undertaken for all operations including those undertaken by contractor

Management Goal 2: Measures are implemented to address and rectify non-compliance

Measure 13.4.3. Quality and condition of worker accommodation and associated services

Management Goal: Accommodation and associated services (drinking water, sanitation services, etc) provided to the work force accommodated on the

<i>FMU are in line with legislation and best practice</i>
<p>Measure 13.4.5: Compliance with health and safety legal requirements and best practice</p> <p><i><u>Management Goal:</u> Forest owners and managers take responsibility for ensuring compliance of all employees with legislated health and safety requirements and best practice</i></p>
Indicator 13.5: Contribution to skills development in the work force
<p>Measure 13.5.1. Opportunities for skills development</p> <p><i><u>Management Goal:</u> Initiatives are provided for employees to enhance or develop new skills associated with their jobs</i></p>
Indicator 13.6: Resolution of labour related conflict situations
<p>Measure 13.6.1. Resolution of labour related conflict situations</p> <p><i><u>Management Goal:</u> Formal conflict resolution processes are applied to resolve any conflicts with employees or contractors</i></p>
CRITERION 14: THE DISTRIBUTION OF THE COSTS FROM FORESTRY IS FAIR
Indicator 14.5: Prevention of adverse off-site impacts arising from forestry operations
<p>Measure 14.5.1. Prevention of negative impacts from forestry operations to neighbouring communities and environments</p> <p><i><u>Management Goal:</u> Operations are planned and managed to prevent adverse off-site environmental impacts, including impacts to neighbouring communities and other stakeholders</i></p>
Indicator 14.6. Mitigation of adverse off-site impacts from forestry operations
<p>Measure 14.6.1. Interventions to address adverse off-site impacts from forestry operations</p> <p><i><u>Management Goal 1:</u> Complaints about negative impacts associated with forestry operations are investigated and verified</i></p> <p><i><u>Management Goal 2:</u> Records are maintained and submitted on complaints about adverse impacts and how these complaints have been addressed (Green Mamba 2)</i></p>
Measure 14.6.2. Mitigation of adverse impacts from forestry operations to neighbouring communities and stakeholders

Management Goal 1: A formal process is undertaken to negotiate and implement mitigation measures mutually agreed to with people negatively impacted by forestry operations

Management Goal 2: A formal process is undertaken to resolve conflict about implementation of forestry operations that are causing adverse impacts

Indicator 14.7. Mitigation of impacts arising from the termination of forestry operations

Measure 14.7.1. Interventions to mitigate adverse social, economic and ecological impacts arising from the termination of forestry operations on an FMU

Management Goal: A formal process is undertaken in consultation with stakeholders to identify and implement mitigation measures to address adverse impacts arising from the discontinuation of forestry operations

CRITERION 15: CRIME IN FORESTRY AREAS IS MINIMISED

Indicator 15.3: Contribution to crime prevention

Measure 15.3.1. Allocation of resources to combat crime

Management Goal: Adequate resources are allocated and activities implemented to combat the incidence of crime, relative to the threat of crime in the vicinity of the FMU

CRITERION 16: FORESTRY CONTRIBUTES TO THE REDUCTION OF HIV/AIDS AND ITS RESULTANT IMPACTS

Indicator 16.3: Efforts to reduce impacts of HIV/Aids

Measure 16.3.1. Range of activities facilitated for employees

Management Goal: Opportunities are created for employees to participate in awareness raising, testing, wellness or treatment activities to reduce impacts of HIV/Aids

CRITERION 17: THERE IS EFFECTIVE STAKEHOLDER PARTICIPATION IN FORESTRY MANAGEMENT

Indicator 17.5: Identification and consultation with stakeholders

Measure 17.5.1. Efforts undertaken to identify stakeholders

***Management Goal:** A stakeholder list is compiled and periodically updated*

Measure 17.5.2: Efforts undertaken to consult with stakeholders

***Management Goal:** Stakeholders are effectively engaged on decisions relating to forestry operations that directly affect them*

Indicator 17.6: Conflict management and resolution

Measure 17.6.1. Efforts undertaken to resolve conflict with stakeholders

***Management Goal:** A formal process is undertaken to resolve conflicts with stakeholders relating to forestry operations*

CRITERION 18: FORESTS ARE DEVELOPED AND MANAGED SO THAT PERSONS OR CATEGORIES OF PERSONS DISADVANTAGED BY UNFAIR DISCRIMINATION ARE ADVANCED

Indicator 18.1: Creation of forest enterprise and management opportunities for disadvantaged persons

Measure 18.1.2. Extent of forest enterprise and management opportunities created

***Management Goal:** Forestry operations align with requirements of the Forestry Charter's Broad-based Black Economic Empowerment Scorecard (BBBEE)*

CRITERION 21: FOREST MANAGEMENT INSTITUTIONS COMPLY WITH ALL RELEVANT LEGISLATION AND CUSTOMARY LAW

Indicator 21.6: Awareness of all relevant legislation and policy

Measure 21.6.1. Demonstration of awareness about requirements of legislation and policy

***Management Goal:** Planning and operations reflect requirements of all relevant legislation, policy and customary law categories, including but not limited to, labour, social aspects, land-use planning and management, land tenure, heritage and environmental management*

Indicator 21.7: Compliance with all relevant legislation, policy and license requirements

Measure 21.7.1: Evidence of compliance with license conditions

Management Goal: *Forest management and operations comply with intended outcomes of legislation, policy and licence requirements*

Measure 21.7.2: Evidence of payment of all taxes, permits, licence fees and levies, and compliance with reporting requirements

Management Goal: *All administrative requirements of licences, levies, permits and taxes are met*

CRITERION 23: FOREST MANAGEMENT PLANNING PROMOTES SUSTAINABLE USE AND DEVELOPMENT OF FOREST RESOURCES

Note: Forest management planning does not infer a requirement for written plans and documents – the appropriateness of the planning approach and process is determined by the scale and intensity of forestry operations and the effectiveness of the chosen approach as applied.

Indicator 23.1: Planning of forestry operations

Measure 23.1.4. Evidence of planning to achieve sustainable forest management

Management Goal: *Planning and allocation of resources for forestry operations is relevant to scale and intensity of forestry operations addressing social, economic and ecological aspects of operations*

Measure 23.1.5. Evidence of consideration of potential impacts of climate change in planning of forestry operations

Management Goal: *Adequate planning and allocation of resources to build resilience to the potential impacts of climate change on forests and forestry operations*

Indicator 23.2: Monitoring and review of management plans and adaptation of operations

Measure 23.2.1. Activities to monitor impacts and outcomes of forestry operations

Management Goal: *Forestry operations are monitored to identify social, economic or ecological impacts that need to be incorporated into management planning*

Measure 23.2.2. Revisions and adaptation of planning and forestry operations

Management Goal: *Management planning is regularly reviewed and updated to inform adaptive and sustainable forest management*