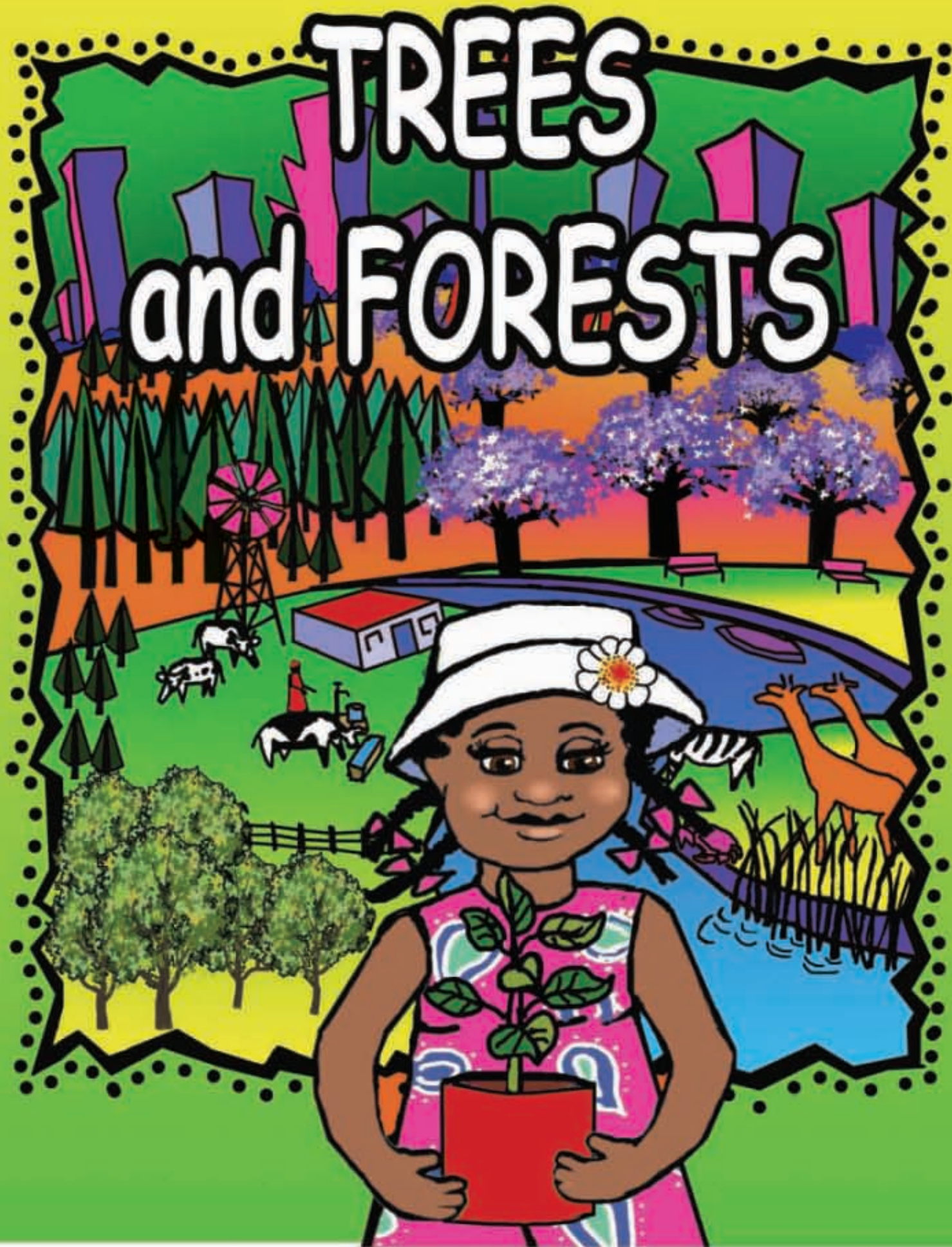


TREES and FORESTS



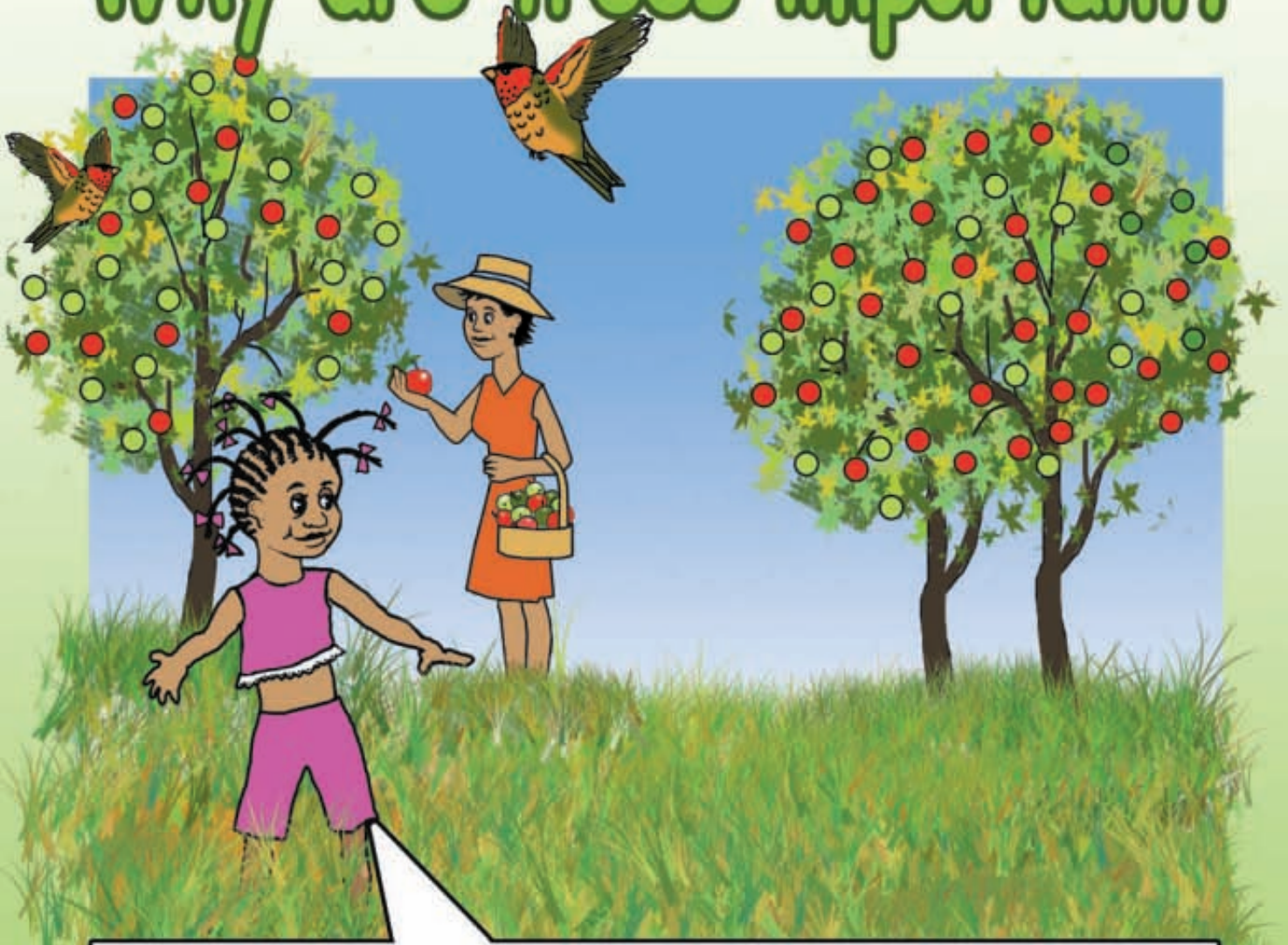
water & forestry

Department:
Water Affairs and Forestry
REPUBLIC OF SOUTH AFRICA



TOTAL

Why are trees important?



Trees are important because:

- They supply oxygen that we breathe and they take in carbon dioxide which we do not need;
- They provide shade for humans, houses, animals, birds, and smaller trees or shrubs;
- They provide food for domestic animals (goats, cows, donkeys) and wild animals (giraffes, Impalas, elephants, etc). Humans also eat fruits from the trees;
- Trees are used for firewood which is used for cooking and heating in winter;
- Many indigenous trees are used as medicine to cure diseases;
- They protect the soil from erosion and shelter our houses from the wind;
- They provide timber for furniture, houses, paper, fences and tools;
- They are used to produce ornaments (craft and sculptures).



Types of trees

There are different ways to classify trees

Seasonal classification

Some trees are evergreen and some are deciduous, which means that some trees keep their leaves in winter while others lose their leaves.



Botanical classification

Two main groups are relevant here, namely trees that produce flowers and fruits (also called broad leaved trees or hardwoods) and secondly, trees that do not produce flowers such as conifers (also called softwoods).



Origin

With regards to origin, trees can be classified as either indigenous or exotic. Indigenous trees naturally occur in South Africa, eg. Acacia karoo also known as the Sweet Thorn Tree. The Exotic species do not occur naturally in South Africa but are introduced from other countries.

What is an invasive species?

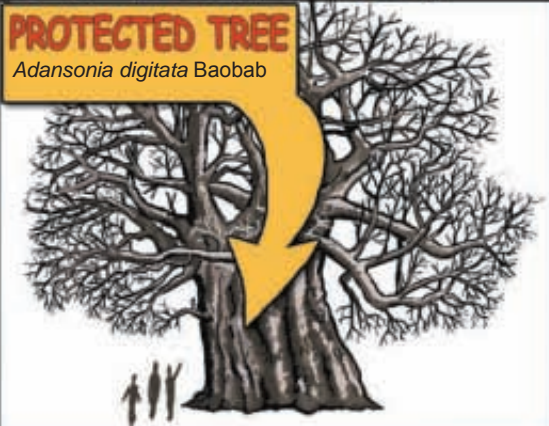
Normally the term invasive species is used to describe exotic trees, plants and animals that multiply easily and spread into natural areas on their own where they do not belong. Not all exotic species are invasive. Examples of invasive trees are Port Jackson trees (mostly found in the Western Cape) and Red sesbania. There are many species of invasive plants, of which some are trees or shrubs. One also finds invasive species among other types of creatures, such as insects, birds, fish and mammals. Invasive species are undesirable because they compete with or threaten indigenous species and they can increase the cost of agriculture or cause fire risk. They also sometimes consume water.



What is a protected tree?



A protected tree can either be an individual tree or a tree species that is protected by law. Trees can either be protected through Provincial legislation or the National Forests Act (No 84 of 1998). In 2005, 47 tree species have been declared Protected Trees under the National Forests Act. Examples of protected trees are the Baobab, Camel Thorn, Stinkwood and Wild Teak trees.



Some indigenous trees have been declared as protected tree species because there are few of them left in South Africa. In some cases trees are protected because they are heavily utilized. In some provinces all trees are protected through conservation legislation of the Province.

Forests in South Africa



Forests are integral to the quality of human life and the environment. They provide food, fuel, shelter, clean water, medicine and employment for people. Forests are home to 70% of the world's terrestrial animals and plants.

Forests clean the air we breathe, reduce concentrations of greenhouse gases in the atmosphere, keep sediments from entering rivers, lakes and protect against flooding, mudslides and erosion. When managed in a sustainable way they can continue to supply current and future generations with a wide range of essential ecological, social and economic goods and services.

Forests can either be described as man-made or indigenous forests and woodlands.

Man-made forests



The vast areas of plantations in South Africa are all man-made forests. In most cases all of these trees were individually planted by hand, example, the pine plantations around Sabie. Most towns and cities also have trees that were planted by the people living there. One could possibly describe these as urban forests.



Indigenous forests and Woodlands



Natural high forests (indigenous forests) cover a very small part of the surface area of South Africa. They are mainly found in the southern and eastern parts of our country and are composed of naturally growing indigenous trees that were not planted by man. These are dense forests that contain trees of different sizes and many other plants. They normally occur in areas of high rainfall, high humidity and on sheltered mountain sides. An example would be the Knysna forest. Because of its importance many of these forests are conserved either as State Forests or they are protected in formal conservation areas. Many do occur on private land.

Indigenous woodlands cover almost one third of the surface area of South Africa. This would include proper woodlands of tall growing trees as well as bushland (bushveld). The indigenous woodlands are also comprised of naturally growing indigenous trees. This type of forest is not so dense and therefore one usually finds grass growing between the trees. An example would be the savanna in the Kruger National Park.

Social importance of forests

Most forests occur around the rural areas of South Africa. Due to low job opportunities and underdevelopment in rural areas, most of people living in these areas are poor. Because of this, the rural people rely on the forest resources for their daily survival. They depend on forests for the following:



1. **Basic needs of survival** – many rural people depend on forests for their daily living:
 - Medicinal plants – traditional herbal medicines harvested from the forests for primary health care.
 - Poles - timber poles are used for building, fencing etc.



- Wild fruits and animals - they form an important source of nutrients and contribute to the food security of the rural households
 - Firewood – for cooking purposes
2. **Money saving** – the following options are created by forests:
 - Using medicinal plants instead of buying medicines from a pharmacy
 - Firewood instead of paying for electricity for cooking and heaters
 - Harvesting wild fruits instead of buying from supermarkets
 3. **During times of adversity** - rural communities often sell forest products to earn a daily living.

Economic importance of forests

Forest resources provide ample business opportunities, such as:

Medicinal plants trade-

Medicinal plants are used by many people in South Africa. Medicinal plants are also processed to produce herbal medicines which could be bought at herbal shops. If medicinal plants are harvested sustainably they can provide a generous income to harvesters and traders.



Manufactured timber products-

Trees are used to make furniture, coffins etc. All these are needed by humans, as such many people buy these products and traders generate money from selling these products.

The timber pole market-

The poles are used to build houses, fencing, fixed telephone lines etc. Traders can sell different poles for example Telkom for telephone lines, builders for building of mainly wooden houses etc



Environmental benefits of trees



- Trees beautify the areas we live in thereby providing an aesthetically pleasing environment.
- Trees promote biodiversity in residential areas by attracting birds and other forms of wildlife.
- Trees reduce pollution by purifying the air; and improve the quality of air that we breathe. They use carbon dioxide during the day, and produce oxygen, as a result they reduce harmful gasses in the atmosphere.
- Trees and other vegetation have a significant impact on the micro climate of a specific area. For instance, they have an impact on the thermal efficiency of buildings in residential settlements.
- In areas with very strong winds, trees can be used as wind breaks to protect livestock, property and human beings.
- Trees, together with other vegetation can be used in soil reclamation, e.g. the rehabilitation of mine dumps.

The history of Forestry in South Africa



The pioneer of forestry in South Africa is said to be David Ernest Hutchins born on 22 September 1850. He was seconded on a three year contract to the Tiny Forest Department in South Africa in 1883, as a graduate of the prestigious Ecole Nationale des Eaux et Forêts in Nancy, France. His experience included working in the Indian Woods and Forests Department, the first and the best forest service in the then British Empire.

His main task in South Africa was to assist the department in the expansion of its new programmes of forest demarcation and plantation establishment. His work in South Africa included demarcation of the forests of the Amatole Mountains North West of King Williams' Town. Hutchins established exotic tree species in the Amatole which included a wide range of species, particularly eucalyptus and pines. Even though his plantings did not really mark the beginning of commercial plantations as they were small and of experimental nature, they provided useful information about the adaptability of various tree species for growth in the Eastern Cape. He was known for championing the value of intensively managed forest plantations for the rapid production of large amounts of quality timber, particularly in areas where the indigenous forests were slow growing and limited in extent. His significant work was the expansion of the system of forest plantations to include new localities. Six of the seventeen plantations in the Western Cape were established during his term in Cape Town. He advised that tree species from central Mexico and Australia (*Pinus patula* & *taeda*) be planted in the then Eastern Transvaal (Mpumalanga). The tree species he recommended are presently of commercial value.

The Department of Water Affairs and Forestry

Forestry became part of the Department of Water Affairs in the early 1990's. At this stage forestry was a Chief Directorate. As a result of the significance that forestry plays in the environmental, economic and social development of the South African population, it has now grown to be a branch of the Department of Water Affairs and Forestry.

The Department of Water Affairs and Forestry as the custodian of government for water and forestry in South Africa has to ensure South Africa's people use water and forests for the lasting benefit of all. The two resources are used to promote social and economic activities in a manner that promote growth, development and prosperity for all people to achieve social justice and equity.

The Department is the regulator of the forestry sector, and has the mandate to formulate forest policy and legislation. The Department has to ensure that forests are managed sustainably for the lasting resource benefit of all the people in the country, and also in a way that will benefit the environment.

The vision for Forestry:

"Forests are managed for people and we need to create an enabling environment for economic and social development through sustainable forestry, especially at the local level".

The Department's forestry chief directorate assists people who want to start their businesses with information, presenting business opportunities and assisting them to ensure that they do not destroy the forestry resources.

The Balancing Act: USE

Forms of use allowed in the State forests as provided for in the National Forests Act 1998, (Act 84 of 1998)

Licence



Non-Consumptive Use



Consumptive Use Exemption



Assignment and delegation



Servitude



Agreement



Lease



Community Forestry Agreement



The Balancing Act: PROTECTION

Forms of protection State forests as provided for in the National Forests Act 1998, (Act 84 of 1998)

Controlled use



State Forest



Natural forest



Protected area



Protected Trees

Single Tree



Group of trees



Species



Woodland



Controlled forest area



The Balancing Act Model



This model indicates that there has to be a balance between USE and PROTECTION of forests.

- **Use**

There are two ways in which use in the State forests is allowed and they are the "Visit" and "Remove" ways of using the forests.

Visit: This means going into the forest to enjoy it and no forest produce and product is taken or removed. Permission is given to people to visit the forests for the following purposes:

- Educational
- Spiritual
- Recreational
- Cultural

Remove: This use of forests calls for regulation because forest produce and products must not be overused (i.e. must be sustainable). This use is regulated either by Exemption or Licenses.

Exemption means that communities living near or around the State forests can enter them without a license but only to take forest produce or products which they will carry on their own and use for domestic purposes and not for selling, and still within other stipulated conditions.

A License is the most common way of obtaining a use right in a State Forest. A DWAF official may issue a license which will state what the applicant is allowed to do and if something is being taken in the forest, say what exactly and how much. Sometimes a license fee has to be paid.

- **Protection**

There are various ways which can be applied to protect forests against various offences which may totally destroy them. These are:

- Controlled use of State forests
- Declaring an area a State forest
- Protection for natural forests
- Protected areas
- Protected species
- Controlled forest areas
- Compliance and Enforcement

If an activity, with which a license or an exemption is required, is carried in a forest without such a license or an exemption, such an activity is according to the National Forests Act, 84 of 1998 an offence. DWAF aims at achieving compliance with the objectives of and the provisions in the National Forests Act, 84 of 1998 by allowing the use of forest resources. Where it is under threat of forests being degraded and lost due to offences against this law, it must take appropriate action of enforcing the law. This is done through the following compliance strategies:

- Working with communities
- Awareness campaigns
- Arresting offenders (as a last resort strategy that DWAF will embark on for contravention of the Act)