

2014 ANNUAL REPORT OF THE DEPARTMENT OF FORESTS

Progress in forestry development continued at a high rate during the year under review. All the targets set for the year, of which the main are the following, were achieved:

- Protection of the forests against fires and other biotic agents and abiotic factors
- Adaptation of forests to climate change
- Maintenance, conservation and appropriate enhancement of biological diversity in forest ecosystems
- Expansion of forests through afforestation of new areas, especially in lowlands
- Establishment and tending of forest stands
- Provision of public recreation opportunities through the creation of National Forest Parks and the establishment, expansion and maintenance of picnic sites, camping sites and nature trails
- Sustainable management of forests through the implementation management plans
- Silvicultural treatment and improvement of forests
- Maintenance and appropriate enhancement of protective functions of forests, notably soil and water
- Production of timber, other forest products and forest reproductive material
- Provision of employment and income to the inhabitants of forest villages
- Promotion of forest education and research
- Raising of public awareness and promotion of public enlightenment
- Development and improvement of forest infrastructure (forest buildings, forest roads, vehicles, machinery, telecommunications etc.)
- Expansion of computerised methods of data recording and processing
- Strengthening of administrative and institutional framework
- Harmonisation with Acquis Communautaire, implementation of forest related international obligations and implementation of various plans and projects, which are co-financed by the European Union and the European Economic Area (EEA)
- Promotion of health and safety in the workplace

With a view to achieving the above targets, the amount of €31.188.458 was approved as the Budget for the year 2014. The total amount of the Budget utilised was €29.238.195 (i.e. 93.75%). Reforestation, thinning and felling operations, maintenance and improvement of forest roads and forest telecommunication, forest management, nature conservation, forest recreation and forest protection, were the main projects on which most of the expenditure was incurred. Protection of the forests received the lion's share of the budget.

Apart from the many non-wood benefits derived from the forests that their monetary valuation is difficult, a revenue of €4.315.870 was realised. An additional amount of €5.970.294, which represents leases of forest land for which tenants refused to pay, was outstanding at the end of the year. Efforts are made for their collection.

It is noted that the value of indirect benefits from the forests are multiple to the above direct income and cannot be attributed with economic terms.

The above targets, are dealt with in greater detail below:

Protection against fires

Based on the New Forest Law (Law 25(I) of 2012) the jurisdiction of the Department of Forests for fighting forest fires has been expanded from one to two kilometers from the state forest delimitation line.

The total number of fires, in which the Department of Forests participated in their firefighting during the year under review, amounts to 161 and are analysed as follows:

- 13 fires with starting point within State Forest Land
- 101 fires with starting point in the zone of two kilometers from state forest delimitation line
- 47 fires with starting point outside the zone of two kilometers from state forest delimitation line

From the above, only 59 fires burned forest or other wooded land.

The total state forest land burned in 2014 was 1,78 ha out of which the 1,68 ha were burned from fires which had a starting point within State Forest Land. From all the fires in which the Department of Forests participated in their firefighting, an area of 833,28 ha of haliland and private land was also burned.

The largest fire which burned state forest land occurred at "Arkatzin" area at Sotira Ammochostou on the 27th of April, 2014 and burned 0,7 ha of state forest land.

The causes of fires that the Department of Forests participated in their firefighting were as follows:

1.	Known causes	78,88%
1.1.	Anthropogenic causes	75,16%
1.1.1.	Negligence/ Accidents	42,86%
	• Agricultural operations	21,74%
	• Visitors/ travelers	3,73%
	• Military operations	4,97%
	• Country or permanent stay house	6,83%
	• Hunting	0,62%
	• Works in the forest	0,62%
	• Short circuit of high voltage electric wires	3,73%
	• Other causes	0,62%
1.1.2.	Malicious	32,30%
1.2.	Natural causes (lightning)	3,73%
2.	Unknown	21,12%

The protection of existing forests against fires, especially during the prolonged dry and hot summers, is the principal concern of the Department of Forests. For prevention, the following measures were taken:

- Recruitment of a Fire Fighting Task Force as well as operation of fire lookout stations/ observation points. Particular reference should be made to the development of 3 Rapid Intervention Fire Fighting Units, one in each Forest District. The 12-hour shift system continued successfully in all forest stations and lookout stations. The total number of staff was 466.
- Mobile patrols in the forest, especially along the delimitation line, were carried out throughout the summer months for prevention, detection and early intervention.
- During 2014, the Flight Unit of the Department of Forests continued functioning successfully. During the summer period, the Flight Unit was strengthened by recruiting 4 firefighters. Additional services for the operation of the aircrafts "Thrush 550" and "Air Tractor AT-802" were purchased during the summer period, from two pilots for four months. Also, for the maintenance of "Thrush 550" and "Air Tractor AT-802", services were purchased from two aircraft engineers and from one electrical engineer. During the year under review, the two aircrafts of the Department were used for the fighting of 7 forest fires and 12 rural fires.
- About 1,7 km of vehicle tracks were constructed and existing forest roads were improved and maintained.
- About 0,2 km of fire breaks were built and 984,2 km were maintained.
- One new hydrant was installed, at Nicosia District.
- One new water tank was constructed, at Nicosia District.
- The mechanisation of the extinguishing of fires continued successfully. At present, the Department has at its disposal 46 fire engines, 40 fire-patrol vehicles and 76 water pumps. In addition, the Department purchased other secondary firefighting equipment such as water tanks, portable water pumps, fire hoses, nozzles, appliances for foam preparation, water launcher systems etc.
- The network of automatic meteorological stations which has been installed in various regions of Cyprus, provided data for the estimation and the extrapolation of fire risk indices around Cyprus.
- The automatic Fire Detection System which was installed at Akamas forest during 2009, continued its operation.
- The "Save our Forests Week" was celebrated from May 8th to May 14th. During the week, a press conference was given by the Minister of Agriculture, Natural Resources and Environment. In addition, a campaign for voluntary blood donation by the personnel of the Department took place.
- Lectures on prevention and suppression of fires were given to the National Guard and public schools.
- Training of Forest Officers, the Fire Fighting Task Force, the Rapid Intervention Fire Fighting Units, the Department of Forests labour force and voluntary groups took place.
- Extensive publicity was made through the mass media.

The Department takes all precautionary measures against forest fires and uses all possible efforts to minimize the number of fires. However, this is not feasible without the cooperation of the public. Therefore, the Department of Forests invests in the enlightenment of the public, forest visitors and especially farmers. However, offenders are usually prosecuted.

The stand-by duty of Forest Officers at the three Forest Divisions and the Cyprus Forestry College, was implemented only during the period 2 - 24.07.2014 due to a labor dispute on how the compensation for overtime work will be carried out. The Department of Forests made all the necessary arrangements in order to ensure the maximum protection of forests.

Furthermore, the Department continued the implementation of the Fire Protection Plan for rural areas which started in 2001. During 2014, 0,85 km of fire breaks were constructed. In addition, roads and fire breaks were improved or maintained.

The works in total carried out since the inception of the Plan were as follows: 82,08 km of new vehicle tracks, 473,54 km of fire breaks, 12 water tanks, 4 observation points, 4 helispots and 59 hydrants.

Afforestation and Reforestation

An area of 12 ha was afforested and an area of 36,9 ha was reforested during the year under review including burnt or stressed state land and Haliland. According to the new practice, artificial reforestation using mechanical means is carried out only in special cases.

The works concerning the reforestation/ restoration of the environment at Amiantos (Asbestos) mine, initiated in 1995, continued.

Enrichment planting at an area of 11,5 ha, which was stressed or had insufficient regeneration, and beating up to an area of 0,7 ha were also carried out.

In 2014, the Department of Forests in its efforts for greening areas outside forests and adopting of a uniform policy for the management of these areas continued with the landscaping of several public places.

Nature Conservation

During 2014, the Department contributed significantly towards the efforts undertaken by the Ministry of Agriculture, Natural Resources and Environment for nature conservation.

The Department of Forests intensified its efforts through the organisation of lectures, voluntary work, ceremonies, speeches through radio and TV and issued new enlightening and informative material for expansion of tree planting and protection of nature.

Both Troodos and Athalassa Environmental Information Centers continued their operation successfully. A total of 4.800 and 8.000 visitors, mainly from Pedagogical Institute, schools and other organized groups, visited Troodos and Athalassa Environmental Information Centers respectively. As from September 2008, in close collaboration with the Ministry of Education, Athalassa Environmental Information Center is operating as an Environmental Education Center. Also, the visits at the public park with domestic animals located at Athalassa Environmental Information Centre, continued with great success.

The construction works for the Environmental Information Center at Cape Greko which began in 2013 continued and are expected to be completed within 2015.

During 2014, the Department participated in the following projects of the LIFE+ program:

- ICOSTACY project: "Improving the conservation status of fauna species in Cyprus". This project started in October 2010 and completed in March 2014
- JUNIPERCY project: "Improving the conservation status of the priority habitat type 9560* (Endemic forests with Juniperus species) in Cyprus". This project started in January 2012 and is expected to be completed in June 2015
- Oroklini project: "Restoration and Management of Oroklini Lake a Special Protection Area in Larnaca, Cyprus". This project started in January 2012 and is expected to be completed in January 2015
- Rizoelia project: "Improving the conservation status of the priority habitat types *1520 and *5220 at Rizoelia National Forest Park". This project started in September 2013 and is expected to be completed in February 2017
- LIFE FORBIRDS project: "Improving forest habitats for birds at low altitudes". The project started in October 2014 and is expected to be completed in December 2017.

Also, the Department of Forests participates in the EEA – Grants 2009 – 2014 Programme: "Biodiversity Conservation in Restoration and Management of the Amiantos (Asbestos) Mine in Troodos National Forest Park".

As in previous years, particular emphasis was given to the protection and reproduction of the Griffon Vulture (*Gyps fulvus*). The coordination of the protection program as well as the feeding, watering and the monitoring of the status of the wild population of Griffon Vultures, continued. Three couples of Griffon Vultures, another 5 birds that were imported from Crete and one bird taken from the Limassol Zoo, were kept within the cages. All the birds, are expected to be released in nature in early 2015.

In addition, the study of Cyprus bats, which was started in 2006, continued.

Within 2014 the following scientific papers were published:

- A species distribution model for the endemic Cyprus whip snake (*Hierophis cypriensis*) is consistent with a transient period of isolated evolution in the Troodos Range
- Frog vs. lizard: an unusual feeding behavior in the Levantine Marsh Frog, *Pelophylax bedriagae* from Cyprus
- Conservation of amphibians in Cyprus
- Reproductive seasonality of the Egyptian fruit bat (*Rousettus aegyptiacus*) at the northern limits of its distribution
- *Tulipa akamasika* (Liliaceae), a new endemic species of Cyprus

The maintenance and expansion works at Troodos and Akamas Botanic Gardens continued with the collection of propagating material for installation at the Botanic Gardens. The Department also maintains a small Botanic Garden at the exterior area of the Environmental Information Center at Athalassa which is an integral part of the Centre.

The efforts to identify, protect and maintain tree monuments continued.

Also, the effort for the study, protection and systematic recording of the Cyprus indigenous and endemic plant species continued and furthermore specimens were collected for the enrichment of the Departments botanical collection.

Forest Recreation

Cyprus forests provide recreational opportunities because of the variety of flora and fauna, the geomorphology, the climate and water conditions in combination with the accessibility, the short distances from towns as well as the existence of historical, archeological and other places of interest inside or near the forests.

Within the framework of the policy for the development of National Forest Parks, the Department continued the implementation of the development plans, as well as the maintenance works in all Forest Parks.

Works for the development, expansion and maintenance of picnic and camping sites continued. Different works including the development of infrastructure, the configuration of the ground, the construction of wooden tables, sheds, fire places, playgrounds, latrines, rubbish disposal places, signposts etc. were also carried out.

During the year, 45 picnic sites with a capacity of 23.062 persons and 3 camping sites with a capacity of 290 tents were available to the public. Another 2 camping sites which are located in state forests and managed by other private agencies were also available to public. These sites were fully occupied during the summer high season.

On December, 2014 the Department of Forests reissued 1.000 copies of the guidebook "Nature Trails in Cyprus", which was prepared in 2013 under the i4WALKer project: "Enhancement of Tourist Infrastructure and Services and Reorganization of the Management System and Promotion of the Hiking Trails in Island Regions". This guidebook includes 5 nature trails of Akamas, 16 of Troodos and 5 of Cape Greko.

Within the year, the Department of Forests and the Cyprus Tourism Organization, organised the "First walking festival in Cyprus" with main aim the promotion of the walking routes and natural beauties of Cyprus. Within the framework of this festival, a number of tours were materialised between March 1st and April 5th, 2014 at various Nature Trails of Cyprus.

During the reporting year, various works for the maintenance and improvement of nature and hiking trails in the state forests were carried out. Great interest was shown from local and foreign visitors for our trails.

Timber Production and Disposal

During the year under review, timber extraction and supply to local sawmills continued in a satisfactory way. A volume of 2.716 m³ timber was extracted from state forests out of which 10 m³ were extracted from burnt areas. Also, a volume of 2.077 m³ timber was extracted from private forests out of which 14 m³ were extracted from burnt areas. Another 167 m³ were extracted from haliland and other areas out of which 4 m³ were extracted from burnt areas.

In addition to the above, timber from state forests, equivalent to 5.377 m³, was extracted as firewood. From the above volume, 94 m³ were extracted from burnt areas. Also a volume of

618 m³ of firewood was extracted from private forests, out of which 4 m³ were extracted from burnt area and another 8 m³ of firewood were extracted from haliland and other areas.

During 2014, the Department issued 14 sawmill permits.

Sustainable Forest Management

During 2014, the mapping of forest formations and Habitats of the Directive 92/43 occurring within the spread limits of the black pine (*Pinus nigra* subsp. *Pallasiana*) which began in October 2013, was completed.

For the organization of the mapping of all forest areas which are under the effective control of the Republic of Cyprus, the Department of Forests materialised meetings and on spot visits in late 2014. The whole work is expected to be completed within the next 2 years and will provide significant information as regards the area, the distribution and the number of forest habitat types for the needs of the "6 years National Report" based on the article 17 of the Directive 92/43/EEC.

Silviculture – Forest nurseries

During the year under review, emphasis was given in tending of forest stands. Tending operations were carried out in 1.481,4 ha of young plantations. During 2014, 20,2 kg seeds were extracted from cones gathered by the Department of Forest. The quantity collected together with the stock of 2013, amounted to 5.682,3 kg. Out of this quantity, 2 kg were sold to public and 174,5 kg were used departmentally. Also, 0,2 kg seeds was exported.

The production of seedlings at the departmental nurseries was adequate. A total of 34.159 seedlings were raised compared to 44.324 in 2013. The seedlings produced in 2014 and the stock of 2013, amounted to 377.303. Out of this quantity, 23.563 were used departmentally, 42.449 were sold to the public, 1.726 were sold to other Government Departments, and 25.836 were donated to schools, village authorities and other organisations and institutions for planting on public or communal lands. Also, 432 seedlings dried out and were written off.

The Department of Forests during 2014 prepared a manual with guidelines as regards the collection, production and marketing of forest reproductive material. The objective of this manual is to record the plant species that each forest nursery produces, the collection area of the reproductive material for different species, the qualitative and quantitative characteristics that the plant species must have prior to their disposal, as well as the forest species for which identity records must be kept.

Forest Engineering

a) Forest Roads

The construction of new forest roads and the improvement of existing ones, constitutes an important aspect of the work of the Department as roads serve on the one hand the systematic management, forest protection, reforestation, tending and exploitation of forests and on the other hand tourism and communication between forest villages.

During the year under review, 0,3 km of “Delikibos – Lythrodontas” road and 0,44 km road within the Amiantos (Asbestos) mine were improved and asphalted. Also, the maintenance, widening and improvement of existing roads continued and 1,7 km of vehicle tracks were built.

The total mileage of the forest road network by the end of 2014 was 1.398,175 km of main forest roads (out of which 209,6 km are asphalted), 1.018,553 km of vehicle tracks and 1.218,506 km of extraction roads.

b) Forest Telecommunications

The Department maintains a telecommunication system for proper forest protection and management. This telecommunication system at the end of 2014 included the following:

- 475 telephone handsets
- 13 cellular telephones
- 1 telephone switch-board
- 1 VHF. control station
- 567 mobile radiotelephones
- 646 portable radiotelephones
- 8 radiotelephone repeaters
- 11 telephone systems
- 1 alarm system with phone line connection

c) Forest Buildings

During the year under review, the following works were carried out:

- Construction of a store at Athalassa forest station
- Construction of two latrines, the one at the Botanic garden at Athalassa forest station and the other at "Avakas Canyon" area, at Droushia valley
- Construction of a shelter for fire fighters at “Mandra tou Kambiou” area, at Lythrodontas valley
- Construction of one observation point at “Gremmos” area, at Lysos valley

Also, the construction of a new latrine at “Konnoi” area at Cape Greko National Forest Park and of a new observation point at “Ais Giannis” area, at Panagia valley, started. In addition, usual repairs and maintenance works were carried out to various forest buildings.

Forestry Education

In 2014, the Cyprus Forestry College completed its 63rd academic year (2013 - 2014). Nine students, seven from Cyprus and two from Ghana graduated during 2014.

The 64th academic year (2014 - 2015) began on October 2nd with a complement of 5 students all from Cyprus.

The final revision of the proposal which was submitted by the Cyprus University of Technology for the establishment of a new Department covering Forestry science, was approved by the University’s Senate and Council on the 15/5/2013 and 25/9/2013, respectively. This proposal includes the establishment of a new Department of Natural and Energy Resources, with three directions, one of which is Forestry. The proposal was

submitted to the Ministry of Education and Culture on the 11/11/2013 for further assessment and adoption.

At the same time, the ad hoc Committee which was appointed by the Department of Forests to report on the current status of the Cyprus Forestry College and to formulate suggestions for the future role of the Forestry College, concluded its mission and submitted a complete proposal to the Ministry of Agriculture, Rural Development and Environment on June 25, 2014. Upon a request by the Ministry of Agriculture, Rural Development and Environment a supplementary report was submitted on November 18, 2014. The proposal was approved by the honorable Minister of Agriculture, Rural Development and Environment who decided to forward the proposal to the Council of Ministers for final decisions.

During the year under review, the Learning Unit of the Department of Forests functioned successfully. Based on its functions, a diagnosis of the needs of the Departments personnel was conducted and also, the plan concerning the learning activities for 2015, was prepared. Both reports, were send to the Cyprus Academy of Public Administration.

The training programs of the Cyprus Forestry College concerning the correct and safe use of chainsaws, continued. During 2014, eighteen training courses were materialised and certification was provided to 144 individuals who attended the relevant training program and succeed the relevant written and practical exams.

Also, a number of officers of the Department participated in various international conferences and seminars.