

## **2015 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 were achieved through the implementation of the following activities:

- Target 1: Efficient protection of forests against fires and other agents
  - Protection of forests against forest fires
  - Protection of forests against other agents
  - Regulation of trade of timber and timber products
- Target 2: Effective protection of biodiversity and other ecosystem services
  - Protection of biodiversity and other ecosystem services
  - Improvement and expansion of forests and greenery
  - Adaptation of forests to climate change and contribution of forests to mitigating climate change
  - Raising of public awareness
- Target 3: Enhancement of forest recreation and other socio-economic functions
  - Improving Forest Recreation and Tourism and other service
  - Deposition of State forest land
  - Building of infrastructure and acquisition of equipment for the management of state forests
  - Production and sale of forest products
- Target 4: Improvement of the policy framework, productivity and education
  - Planning, implementation and evaluation of forest management
  - Alignment with EU and international forest policy
  - Improving the productivity and quality of services
  - Improvement of education, human resources development and research

With a view to achieving the above targets, the amount of €32.892.542 was approved as the Budget for the year 2015. The total amount of the Budget utilised was €30.156.897 (i.e. 91,68%). 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 whose monetary valuation is difficult, a revenue of €5.366.868 was realised. An additional amount of €6.358.716, 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 275 and are analysed as follows:

- 10 fires with starting point within State Forest Land
- 133 fires with starting point in the zone of two kilometers from the state forest delimitation line
- 132 fires with starting point outside the zone of two kilometers from the state forest delimitation line

From the above, only 81 fires burned forest or other wooded land.

The total state forest land burned in 2015 was 1,99 ha out of which the 1,91 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 1.060,81 ha of haliland and private land was also burned.

The largest fire which burned state forest land occurred at Larnaka Salt Lake forest area on the 26<sup>th</sup> of May, 2015 and burned an area of 3,4 ha out of which 1,5 ha was state forest land.

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

<b>1.</b>	<b>Known causes</b>	<b>81,45%</b>
1.1.	Anthropogenic causes	79,27%
1.1.1.	Negligence/ Accidents	41,82%
	• Agricultural operations	20,36%
	• Visitors/ travelers	5,09%
	• Military operations	2,55%
	• Country or permanent stay house	4,36%
	• Hunting	1,82%
	• Short circuit of high voltage electric wires	4,36%
	• Burning of rubbish	2,55%
	• Other causes	0,73%
1.1.2.	Malicious	37,45%
1.2.	Natural causes (lightning)	2,18%
<b>2.</b>	<b>Unknown</b>	<b>18,55%</b>

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. The 12-hour shift system continued successfully in all forest stations and lookout stations. The total number of staff was 465.
- Mobile patrols in the forest, especially along the delimitation line, were carried out throughout the summer months for prevention, detection and early intervention.

- During 2015, 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 13 forest fires and 14 rural fires.
- About 0,96 km of vehicle tracks were constructed and existing forest roads were improved and maintained.
- About 926,57 km of fire breaks were maintained.
- Two new hydrants were installed, one at Nicosia Division and one at Troodos Division.
- One new water tank was constructed, at Nicosia Division.
- The mechanisation of the extinguishing of fires continued successfully. At present, the Department has at its disposal 46 fire engines, 47 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 5<sup>th</sup> to May 11<sup>th</sup>. During the week, a press conference was given by the Minister of Agriculture, Rural Development 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 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 from May 18<sup>th</sup> until the end of the summer period.

Furthermore, the Department continued the implementation of the Fire Protection Plan for rural areas which started in 2001. During 2015, one new hydrant was installed and one

observation point was 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, 5 observation points, 4 helispots and 60 hydrants.

### **Afforestation and Reforestation**

An area of 3,4 ha was afforested and an area of 4,2 ha was reforested during the year under review including burnt or degraded state land. According to the new practice, artificial reforestation using mechanical means is carried out only in special cases.

Enrichment planting at an area of 6,1 ha, which had insufficient regeneration, and beating up to an area of 18,7 ha were also carried out.

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

In 2015, 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.

Finally, after the allotment of funds to the Department of Forests by the Geological Survey Department, the Department proceeded to the afforestation of 0,7 ha of private land at Agrokippa Mine.

### **Nature Conservation**

During 2015, the Department contributed significantly towards the efforts undertaken by the Ministry of Agriculture, Rural Development 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 5.300 and 8.750 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 Kreko which began in 2013 completed within 2015. The building was received by the Department of Forests on 11/03/2015, however the supply, installation and operation of three aquariums, is pending. The remaining works and repair works for technical problems which were found are ongoing and are expected to be completed soon.

During 2015, the Department participated in the following projects of the LIFE+ program:

- 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
- 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.

Additionally, the Department of Forests is actively involved in the submission of the proposals under LIFE+ for the new period:

- Life Agrino
- Life Info – Natura 2000 Troodos
- Life - Kedros

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". The implementation period of the project was prolonged until April 2017 since the construction of the lake has not been completed due to technical difficulties.

The Department of Forests is also involved in the research program of the Agricultural Research Institute "Examine the possibility of commercial exploitation of native and endemic plants of the Cyprus flora", which started in June 2015 and is expected to be completed in June 2017 as well as in the project "Global Tree Seed Bank Project" of the Frederick University, which started in July 2015 and is expected to be completed in March 2018.

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 are kept within the cages while the rest birds imported from Crete and those that were taken from the Limassol zoo were released.

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

During the year under review the Department of Forests participated in the publication of the scientific work on the Cyprus fruit-bat "Reproductive seasonality of the Egyptian fruit bat (*Rousettus aegyptiacus*) at the northern limits of its distribution" in the scientific journal of Mammology.

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 Department's 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 23.180 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.

During 2015, the trail "Kakotziefalos - Mantra tou Kampiou" which is located at Macheras valley, was expanded by 1,1 km.

Within the year, the Department of Forests and the Cyprus Tourism Organization, organised the "Second 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 11<sup>th</sup> and May 10<sup>th</sup>, 2015 at various Nature Trails of Cyprus.

Within the year, the Department of Forests issued revised leaflets for Artemis, Atalanti and Persephoni nature trails, in Greek, and also issued a revised leaflet for Caledonia nature trail, both in Greek and English.

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. For further improvement of the provided services, the Department of Forests prepared a maintenance program of nature trails and also developed a software system in which the data and the results of the checks on the condition of nature trails will be recorded.

## Timber Production and Disposal

During the year under review, timber extraction and supply to local sawmills continued in a satisfactory way. A volume of 2.295 m<sup>3</sup> timber was extracted from state forests out of which 11 m<sup>3</sup> were extracted from burnt areas. Also, a volume of 807 m<sup>3</sup> timber was extracted from private forests and another 769 m<sup>3</sup> were extracted from haliland and other areas.

In addition to the above, timber from state forests, equivalent to 5.266 m<sup>3</sup>, was extracted as firewood. From the above volume, 40 m<sup>3</sup> were extracted from burnt areas. Also a volume of 3.439 m<sup>3</sup> of firewood was extracted from private forests and another 610 m<sup>3</sup> of firewood were extracted from haliland and other areas.

During 2015, the Department issued 13 sawmill permits.

## **Sustainable Forest Management**

During February 2015, the works for the mapping of all forest areas which are under the effective control of the Republic of Cyprus started. 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.

Also, the Department of Forests participates in the Steering Committee for Akamas Management Plan as well as in the Committee for the Management Plans of the Special Protection Areas for birds.

### **Silviculture – Forest nurseries**

During the year under review, emphasis was given in tending of forest stands. Tending operations were carried out in 1.155,9 ha of young plantations. During 2015, 16,35 kg seeds were extracted from cones gathered by the Department of Forest. The quantity collected together with the stock of 2014, amounted to 5.521,95 kg. Out of this quantity, 86,85 kg were used departmentally.

The production of seedlings at the departmental nurseries was adequate. A total of 45.548 seedlings were raised compared to 34.159 in 2014. The seedlings produced in 2015 and the stock of 2014, amounted to 328.845. Out of this quantity, 27.065 were used departmentally, 37.829 were sold to the public, 3.819 were sold to other Government Departments, and 8.826 were donated to schools, village authorities and other organisations and institutions for planting on public or communal lands. Also, 34.048 seedlings dried out and were written off.

During 2015 the Department of Forests began the preparation of standardized protocols for the production of forest reproductive material. The objective of these protocols is to record for all plant species produced in forest nurseries the seed ripening period, the germination capacity, the methods to break seed dormancy, the sowing methods as well as all the procedure followed in forest nurseries from the time of seed germination until the disposal of plants.

## **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, 0,53 km of "Mathiatis - Delikipos" road was improved and asphalted and 4,6 km of the road "Monashillaka – Emnes" was coated with asphalt. Also, the maintenance, widening and improvement of existing roads continued and 0,96 km of vehicle tracks were built.

The total mileage of the forest road network by the end of 2015 was 1.398,175 km of main forest roads (out of which 210,13 km are asphalted), 1.019,513 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 2015 included the following:

- 496 telephone handsets
- 13 cellular telephones
- 1 telephone switch-board
- 1 VHF control station
- 571 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 three observation points, the first at "Koukkou" area at Pomos, the second at "Ais Giannis" area at Panagia Valley and the third at "Vouni" area at Pyrgos, since the observation point existed at the same area, was seriously damaged by extreme weather conditions
- Construction of a hangar for the aircrafts of the Flight Unit of the Department of Forests
- Construction of latrines at "Kinousa" area observation point
- Construction of a wooden shed at Athalassa forest nursery
- Construction of latrines nearby the refreshment kiosk at "Konnoi" area at Cape Kreko National Forest Park
- Buildings of the Cape Kreko Environmental Information and Education Center at "Agioti Anargyri" area

Additionally, the Department of Forests received four office buildings from the Ministry of Agriculture, Rural Development and Environment after the relocation of the Ministry.

Also, the works for the construction of the new latrines at Stavros tis Psokas continued.

In addition, usual repairs and maintenance works were carried out to various forest buildings.

## **Forestry Education**

In 2015, the Cyprus Forestry College completed its 64<sup>th</sup> academic year (2014 - 2015). Five students from Cyprus graduated during 2015.

The Proposal of the Department of Forests, for the future operation of the Forestry College, was examined by the Ministry of Agriculture, Rural Development and Environment, and a proposal was submitted to the Council of Ministers, on the basis of the Department's recommendations.



The Council of Ministers, in its Decision no. 79.070, dated 1/7/2015, decided:

- The temporary suspension of the provision of the three-year-cycle programme of the Forestry College
- The expansion and enhancement of the Forestry College's function as an educational and training center
- The preparation of an Action Plan for the transformation of the Forestry College, covering the period 2016 - 2018
- To examine the various requests and proposals for the use of the College's infrastructure likely to remain available after the new form of operation.

On the basis of the Decision of the Council of Ministers, the Department of Forests has prepared an Action Plan for the transformation of the Forestry College into an education and training center.

The first meeting of the Advisory Committee on the Operation of Forestry College was convened on November 18, 2015.

During the year under review, the Learning Unit of the Department of Forests functioned successfully. Based on its functions, a diagnosis of the learning needs of the Departments personnel was conducted and also, the plan concerning the learning activities for 2016, was prepared. Both reports, were sent to the Cyprus Academy of Public Administration together with an evaluation report for the learning activities of 2014.

The training programs of the Cyprus Forestry College concerning the correct and safe use of chainsaws, continued. During 2015, eight training courses were materialised and certification was provided to 66 individuals who attended the relevant training program and succeeded to the relevant written and practical exams.

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