

2011 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 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).

With a view to achieving the above targets, the amount of €43.445.270 was approved as the Budget for the year 2011. The total amount of the Budget utilised was €36.414.026 (i.e. 83,82%). 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 €4.916.855 was realised. An additional amount of €2.660.156, which represents lease of forest land, was outstanding at the end of the year. 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.

Of the above targets, Forest Protection, Afforestation and Reforestation, Nature Conservation, Forest Recreation, Timber Production and Disposal, Sustainable Forest Management, Silviculture/ Forest Nurseries, Forest Engineering and Forest Education are dealt with in greater detail below:

Protection against fires

The year under review is considered as a good year regarding the protection of Cyprus forests from fires. Specifically, the total number of fires, in which the Department of Forests participated in their firefighting during the year under review, amounts to 183 and analysed as follows:

- 18 fires with starting point within State Forest Land
- 41 fires with starting point in the zone of one kilometer from state forest delimitation line
- 124 fires with starting point outside the zone of one kilometer from state forest delimitation line

The total state forest land burnt in 2011 was 63,78 ha. Only 25,28 ha of this burnt area had starting point within State Forest Land (18 fires). From all the fires in which the Department of Forests participated in their firefighting, an area of 1.910,57 ha of haliland and private land also burned.

The largest fire which burnt state forest land occurred at Fterikoudi area at Agia Marina Chrysochous on the 11th of July and burnt an area of 80,3 ha, out of which 38,5 ha were state forest land.

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

• Malicious	34,43%
• Agricultural operations	22,40%
• Unknown causes	15,30%
• Visitors/ travelers	8,20%
• Country or permanent stay houses	7,65%
• Natural Causes (lightning)	3,28%
• Military operations	2,73%
• Burning of rubbish	1,64%
• Other causes	1,64%
• Short circuit of high voltage electric wires	1,64%
• Hunting	0,55%
• Works in the forest	0,55%

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:

- The stand-by duty of the Forest Officers continued during the summer period, at the three Forest Districts and at the Forestry College.
- Recruitment of a Fire Fighting Task Force as well as the 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 464 compared to 461 during 2010.
- During 2011, the newly established Flight Unit of the Department of Forests continued functioning successfully. During the summer period, the Flight Unit was strengthened

by recruiting 2 firefighters. Additional services for the operation of the aircraft "Air Tractor AT-802" were purchased during the summer period, from two pilots from a Spanish company. Also for the maintenance of "Thrush 550" and "Air Tractor AT-802", services were purchased from two aircraft engineers. During the year under review the two airplanes of the Department were used for the fighting of 6 forest fires and 25 rural fires.

- About 5,95 km of new forest roads were constructed out of which 5,15 km were vehicle tracks and 0,8 km extraction roads. In addition, existing forest roads were improved.
- About 8,72 km of fire breaks were built and 945 km were maintained.
- Six new hydrants were installed, two at Troodos District, one at Nicosia District, two at Pafos District and one at Forestry College Forest.
- Five new water tanks were constructed, one at Troodos District, two at Pafos District and two at Forestry College Forest. Another water tank, at Pafos District was under construction.
- Mobile patrols in the forest, especially along the delimitation line, were carried out throughout the summer months for prevention, detection and early intervention.
- The mechanisation of the extinguishing of fires continued successfully. At present, the Department has at its disposal 49 fire engines, 37 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 on a pilot basis.
- A new fire protection system consisting of 9 fire hose cabinets installed at Kionia picnic site. Also the installation of another one fire protection system which will consist of 11 fire hose cabinets began at Xerargaka picnic site.
- The "Save our Forests Week" was celebrated from 6th to 13th May. 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, the Police and the public.
- Training of Forest Officers, the Fire Fighting Task Force, the Rapid Intervention Fire Fighting Units, the Department of Forests labour force and the National Guard 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.

Furthermore, the Department continued the implementation of the Fire Protection Plan for rural areas which started in 2001. During 2011, 0,35 km of vehicle tracks 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, 451,79 km of fire breaks, 12 water tanks, 4 observation points, 4 helispots and 56 hydrants.

Afforestation and Reforestation

An area of 34,4 ha was afforested and an area of 55,5 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.

Enrichment planting at an area of 100 ha, which was stressed or had insufficient regeneration and beating up to an area of 21,4 ha. was also carried out.

In addition, the works concerning the reforestation/ restoration of the environment at Amiantos (Asbestos) mine, initiated in 1995 continued. The hydroseeding method used for the first time in 2003 continued with very good results.

In 2011, 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 school gardens and other public places.

During 2011, a guide was published, recording the official policy of the Department of Forests regarding the production and establishment of forest plants in the state forests and other public lands taken over by the Department. The purpose of this publication is to keep the forest staff informed in order to act within a defined policy in these important sectors. At the same time, it informs public and other involved agencies about the public policy on these issues.

After the devastating explosion on 11th of July, 2011 at Mari area, the Department of Forests prepared a plan for the re-establishment of vegetation in the area. The plan includes restoration works, selection of plant species, maintenance of the plantation, implementation period and total cost of the project. The part of the project concerning the Power Station area will be executed by the Electricity Authority of Cyprus while the part concerning the military base, will be executed by the National Guard.

Nature Conservation

During 2011, 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 Athalassa and Troodos Environmental Information Centers continued their operation successfully. A total of 12.350 and 7.021 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 operated as an Environmental Education Center.

The construction of the Environmental Information Center at Cape Greko was awarded after an open competition to a private construction company. The construction works began in 2010 and the project should have been completed by October 2011. Due to serious delays in the execution of the project by the contractor (completed only the 25% of the work until June 2011), the Department of Forests on 11/7/2011 proceeded to the solution of the contract. The issue is subjected to arbitration handled by the Legal Service.

The effort for the study, protection and systematic recording of the Cyprus indigenous and endemic plant species continued as did the completion of the botanical collection of the Department.

In November 2011, the LIFE+ program entitled "Improving the conservation status of the priority habitat type 9560* (Endemic forest with *Juniperus* spp.) in Cyprus", was approved. The content of the program is the study and especially the implementation of actions in NATURA 2000 areas in state forests in relation to the priority habitat "Juniperus Endemic forests (9560*)". The Department of Forests launched a competition in 2011 for the provision of related services and management of the natural and economic content of the work program.

The production of the film "The Cape Greko National Forest Park" continued by shooting scenes in the field. The production of the film began in January 2011 and is expected to be completed in April 2012.

The maintenance and expansion works at Troodos and Akamas Botanic Gardens continued with collection of propagating material for installation at the Botanic Gardens.

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

As in previous years, particular emphasis was given to the protection and reproduction of the Griffon Vulture, (*Gyps fulvus*), the wild population of which numbers approximately 8 - 10 individuals. In addition, the work for the study of Cyprus bats, started in 2006, continued.

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.

The creation of new and the development and maintenance of existing, 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, toilets, rubbish disposal places, signposts etc. were carried out.

During the year, 45 picnic sites with a capacity of 22.960 persons and 3 camping sites with a capacity of 290 tents were available to the public. Also another 2 camping sites which are located in state forests and managed by other private agencies were available to public. These sites were fully occupied during the summer high season.

During 2011, the construction works at "Dasaki Achnas" picnic site were completed and the works for the construction of a new Nature Trails "Monashillaka - Moutti ton Anemon" began.

In September 2011, the Department of Forests called for tenders for the provision of services for planning the upgrade of four nature trails and for the preparation of models and technical specifications of various constructions in the nature trails in the state forests. In December 2011, the contracts for the project were signed.

Under the Operational Programme regarding Cross Border Cooperation between Greece - Cyprus 2007 - 2013 "i4WALKer", during the year under review, the Department of Forests prepared a guide for the construction and management of Nature Trails in state forests. This guide describes all important data and parameters that should be taken into consideration during the planning and establishment of a Nature Trail from choosing the route until the construction, signaling, maintenance and management. Main objective of the guide is to standardise operations and formulate rules governing the planning and maintenance of Nature Trails for better achievement of the objectives and policies of the Department. The guide will also set the Department of Forests as the Competent Authority in Cyprus for the Nature Trails.

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 the 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 4.130 m³ timber was extracted from state forests. Also a volume of 1.719 m³ timber was extracted from private forests and another 329 m³ timber was extracted from haliland and other areas.

In addition to the above, timber from state forests, equivalent to 3.106 m³, was extracted as firewood. From the above volume, 82 m³ were extracted from burnt areas. Also a volume of 1.042 m³ of firewood was extracted from private forests and another 264 m³ of firewood was extracted from haliland and other areas.

During 2011, the Department issued 16 sawmill permits.

Sustainable Forest Management

The management of forest resources is done on a sustainable basis with main aim the maximisation of social and economic benefits from the forests through their multiple use, maintaining, at the same time, the naturalness and improving their composition and structure.

In 2011, the works for the preparation of the management plans for Rizoelia, Stavrovouni, Machairas and Pafos forests, completed. Also the works for the development of a Management Plan for Lemesos, Agios Mamas and Akapnou forests began and are expected to be completed by the end of 2012.

Also during September 2011, an inventory for *Pinus brutia* forests in productive, non productive forests and reforestations began. The inventory is expected to be completed by the end of 2012.

The collection of field data concerning the cedars spreading area completed in early 2011. All the data were recorded to a database and the processing and analysis of data started.

Silviculture – Forest nurseries

During the year under review, emphasis was given in tending of forest stands. Tending operations were carried out in 1.560,2 ha of young plantations. The seed collected during the year, together with the stock of last year, was adequate to cover the Departmental needs. A total quantity of 1.479 kg of seed was collected. A small fraction of this quantity was exported.

The production of seedlings at the departmental nurseries was adequate. A total of 162.115 seedlings were raised compared to 166.683 in 2010. The seedlings produced in 2011, plus the stock of 2010, amounted to 644.670. Out of this quantity, 51.493 were used departmentally, 106.336 were sold to the public, 13.789 were sold to other Government Departments, and 41.631 were donated to schools, village authorities and other organisations and institutions for planting on public or communal lands.

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, exploitation and on the other hand tourism and communication between forest villages.

During the year under review, 1,1 Km of the Spilia - Saranti road and 1,69 km of Selladi tou Petrou – Selladi tis Rizas road were improved and asphalted. Also the maintenance, widening and improvement of existing roads continued and 5,15 km of vehicle tracks and 0,8 km of extraction roads were built.

The total mileage of the forest road network by the end of 2011 was 1.433,49 km of main forest roads (out of which 189,89 km are asphalted), 1.013,18 km of vehicle tracks and 1.218,51 km of extraction roads.

b) Forest Telecommunications

The Department maintains telecommunications network for proper forest protection and management. This telecommunication system at the end of 2011 included the following:

- 454 telephone handsets
- 13 cellular telephones
- 2 telephone switch-boards
- 1 VHF. control station
- 523 mobile radiotelephones
- 602 portable radiotelephones
- 6 radiotelephone repeaters

c) Forest Buildings

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

- Construction of a garage at Gialia forest station
- Construction of a new forest station at Panagia at Pafos District.

Also the expansion works of the store and offices of the Forest Engineer Sector at Athalassa were completed. In addition, usual repairs and maintenance works were carried out to various forest buildings.

After the initial approval of the Ministry of Finance, the Department of Forests appointed a three-member committee in order to find a suitable building to host the Headquarters of the Department in Lefkosia. After the evaluation of all proposals submitted from those expressed their interest, the committee focused its interest on the best - under the current circumstances- proposal and carried out negotiations with the owners of the project. By the end of 2011, the negotiations collapsed. Therefore, the committee turned its efforts to investigate other available options.

Forestry Education

In 2011, the Cyprus Forestry College completed its 60th academic year (2010 – 2011). Four students, all Cypriots graduated during 2011.

The 61st academic year (2011 – 2012) began on October 3rd with a complement of 31 students out of whom 25 were Cypriots and 6 from other countries. Seven (7) out of 25 Cypriot students were recruited in 2011 and will begin their studies at the Forestry College in early 2012.

Based on the positive position of the Department of Forests and the Ministry of Agriculture, Natural Resources and Environment for covering Forest Science under the Cyprus University of Technology, the Governing Board of the Cyprus University of Technology submitted a proposal to the Ministry of Education and Culture, for the establishment of a new Department on Natural Resources with two directions, one of which will be in Forestry. During 2011, the Department of Forests, participated in several meetings regarding this subject and submitted its opinions. The University of Technology is expected to submit the economic analysis of the proposal with additional information for the final evaluation by the Ministry of Education and Culture.

During the year under review, the Learning Unit of the Department of Forests functioned successfully. The learning activities materialized in 2010 were evaluated. A plan for the learning activities of 2011, and a report for the learning needs of 2012 were prepared.

Through the Learning Unit activities of 2011, a number of officers participated in training courses in Cyprus and abroad.

After the training of four officers of the Department on the correct and safe use of chainsaws, to an educational institute in Germany during 2010, a training group was created which is based at the Cyprus Forestry College and provides training and certification to individuals who attend the relevant training program and succeed the relevant written and practical exams. During 2011, two trainings courses were materialized on a pilot basis.

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