

2012 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)
- Promotion of health and safety in the workplace

With a view to achieving the above targets, the amount of €38.744.249 was approved as the Budget for the year 2012. The total amount of the Budget utilised was €33.860.155 (i.e. 87,39%). 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 €4.261.721 was realised. An additional amount of €3.488.289, which represents lease of forest land for which tenants refused to pay, was outstanding at the end of the year. Efforts will be made for their collection over the next 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.

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 195 and are analysed as follows:

- 19 fires with starting point within State Forest Land
- 92 fires with starting point in the zone of two kilometers from state forest delimitation line
- 84 fires with starting point outside the zone of two kilometers from state forest delimitation line

The total state forest land burnt in 2012 was 131,69 ha. Only 3 ha of this burnt area had starting point within State Forest Land (19 fires). From all the fires in which the Department of Forests participated in their firefighting, an area of 2.909,72 ha of haliland and private land was also burned.

The largest fire which burnt state forest land occurred at Koudounistis area at Agios Epifanios Orinis on the 9th of August and burnt an area of 130 ha, out of which 100 ha were state forest land.

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

• Agricultural operations	24,62%
• Country or permanent stay houses	7,69%
• Short circuit of high voltage electric wires	7,18%
• Visitors/ travelers	7,18%
• Military operations	4,10%
• Other causes	2,05%
• Burning of rubbish	1,54%
• Works in the forest	1,54%
• Malicious	23,08%
• Natural Causes (lightning)	6,15%
• Unknown causes	14,87%

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 466.
- During 2012, the newly established 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 aircraft "Air Tractor AT-802" were purchased during the summer period, from one pilot for six months, from the Cyprus Company "GAS". Also for the maintenance of "Thrush 550" and "Air Tractor AT-802", services were purchased from two aircraft engineers and

periodically from one electrical engineer. During the year under review, the two airplanes of the Department were used for the fighting of 9 forest fires and 9 rural fires.

- About 3,37 km of vehicle tracks were constructed.
- About 34,65 km of fire breaks were built and 1.028 km were maintained.
- Five new hydrants were installed, one at Troodos District, two at Pafos District and two at Cyprus Forestry College's Forest.
- Two new water tanks were constructed at Pafos District. Another water tank, at the Cyprus Forestry College's Forest 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, 43 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 11 fire hose cabinets was installed at Xerargaka picnic site. Also 9 fire hose cabinets were installed for the expansion of the fire protection system at Cape Greko.
- The "Save our Forests Week" was celebrated from May 4th to 11th. 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 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 2012, 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 45,7 ha was afforested and an area of 160,3 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. The hydroseeding method used for the first time in 2003 continued with very good results.

Enrichment planting at an area of 39,7 ha, which was stressed or had insufficient regeneration and beating up to an area of 24,3 ha was also carried out.

In 2012, 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 2012, 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 8.250 and 6.363 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.

After the termination of the contract for the construction of the Environmental Information Center at Cape Greko in July 2011, the Department launched in November 2012 a new open competition for the completion of the construction of the building. The offers are in the final stage of evaluation and the continuation of the construction works will resume in early 2013.

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.

The project started on the 1st of September 2009 to investigate the impact of climate change on critical aspects of reproductive biology of local endemic plant species of Troodos National Forest Park completed in August 2012. The results of the research project were presented in October 2012.

In early 2012, the implementation of the Project JUNIPERCY (LIFE+) "Improving the conservation status of the priority habitat type 9560* (Endemic forest with Juniperous spp.) in Cyprus" began. The JUNIPERCY project concerns detailed mapping, description and assessment of the current status of the habitat 9560*, with emphasis on the implementation of conservation and protection measures. During 2012, the Department proceeded in a detailed mapping of habitats in 3 areas of interest; Troodos National Forest Park, Akamas, and Madari region.

Within the framework of a new LIFE project launched in January 2012 aiming to the restoration and protection of the important wetland of Oroklini Lake (which is a Special Protection Area and Site of Community Importance under the European Directive 92/43/EEC Habitats) the Department proceeded to the removal of invasive species (mostly acacias) and to the planting of 1.500 native shrubs and trees.

For the improvement of the conservation status of selected fauna species and their habitats in 14 NATURA 2000 areas in Cyprus through the ICOSTACY project, the Department implemented a significant number of actions aiming to protect 24 endangered species of wild fauna of Cyprus (19 bats, 3 reptiles and 2 insects). Among others, restoration and enhancement of microhabitats for reptile and invertebrate species was carried out. Among the works carried out were the building of terraces and restoration of wood remains in selected locations, the construction of ponds, the establishment of hosts tree plantations and major restoration and creation of shelters (13 buildings and 5 galleries of abandoned mines) for bats.

The production of the film "The Cape Greko National Forest Park" which began in January 2011, was completed in November 2012. The film includes views landscapes, flora habitats and vegetation types, archaeological sites, other important elements as well as the underwater environment of the surrounding area of Cape Greko.

The maintenance and expansion works at Troodos and Akamas Botanic Gardens continued with collection of propagating material for installation at the Botanic Gardens. Also on 10th of May, 2012 the inauguration of Akamas Botanical Garden at the Baths of Aphrodite took place.

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 11 individuals. Through the GYPAS project; "Empowering the Cypriot population of Griffon Vulture (*Gyps fulvus*) with others from Crete (Greece)" in the current year, the Department materialised a series of measures with the main one to be the construction of a cage structure for acclimatization at Agios Ioannis village and the acquisition of the first 11 vultures from Crete. In addition, the study of Cyprus bats, which was 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 works for the creation, 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 carried out.

During the year, 45 picnic sites with a capacity of 22.032 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.

In 2012, based on plans and technical specifications prepared by a private architectural office, the Department awarded tenders for the construction and supply of equipments (metal and wooden structures) for the needs of the 4 nature trails (Aphrodite in Akamas, Caledonia and Persephone at Troodos and Agioi Anargyroi at Cape GreKo) under the project i4WALer. Improvement works have been carried out in all trails and also special devices were placed for counting the visitors. At the beginning of each trail, information signs and equipment for assessing their use as well as the visitor satisfaction were placed. Also, three (3) other Nature Trails were upgraded through the project GEO.TOPI.A to operate as Geotrails. These trails are "Artemis" and "Atalanti" at Troodos Forest and "Teishia tis Madaris" at Adelfoi Forest. The improvement works at "Artemis" and "Atalanti" Nature Trails were completed in 2012.

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 4.240 m³ timber was extracted from state forests out of which 1.416 m³ were extracted from burnt areas. Also a volume of 1.332 m³ timber was extracted from private forests out of which 165 m³ were extracted from burnt areas.

In addition to the above, timber from state forests, equivalent to 7.540 m³, was extracted as firewood. From the above volume, 3.065 m³ were extracted from burnt areas. Also a volume of 531 m³ of firewood was extracted from private forests out of which 50 m³ were extracted from burnt areas and another 41 m³ of firewood was extracted from haliland and other areas.

During 2012, the Department issued 15 sawmill permits.

Sustainable Forest Management

The management of forest resources is carried out 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.

The preparation works for the Management Plan for Lemesos, Agios Mamas and Akapnou forests were completed during 2012.

Based on new data collected from Lemesos, Agios Mamas and Akapnou forests, 12 habitats of Annex I of the Directive 92/43 and 2 habitats that were previously proposed for inclusion in this Annex were found.

Also the inventory for *Pinus brutia* forests in productive, non productive forests and reforestations continued. The field work is expected to be completed in the beginning of 2013 and the data recording and processing as well as the export of results are expected to be completed later on during the same year.

Silviculture – Forest nurseries

During the year under review, emphasis was given in tending of forest stands. Tending operations were carried out in 1.241,6 ha of young plantations. A total quantity of 1.304 kg of seed was collected during the year. The quantity collected together with the stock of 2011, amounted to 5.630 kg. Out of this quantity 21 kg were sold to public and 632 kg were used departmentally. Also, 0,5 kg of seed was exported.

The production of seedlings at the departmental nurseries was adequate. A total of 159.999 seedlings were raised compared to 162.115 in 2011. The seedlings produced in 2012, the stock of 2011, plus 2.450 seedlings received from other Governmental nurseries, amounted to 595.116. Out of this quantity, 33.629 were used departmentally, 95.170 were sold to the public, 14.060 were sold to other Government Departments, and 32.565 were donated to schools, village authorities and other organisations and institutions for planting on public or communal lands. Also, 10.402 seedlings of invasive species, whose use is prohibited, were destroyed.

Also during 2012, the Department of Forests proceeded in the revision of the selling prices of plants sold from forest nurseries.

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, 1,23 km of "Selladi tou Petrou" – "Selladi tis Rizas" road was improved and asphalted. Also the maintenance, widening and improvement of existing roads continued and 3,37 km of vehicle tracks were built.

The total mileage of the forest road network by the end of 2012 was 1.398,175 km of main forest roads (out of which 208,86 km are asphalted), 1.016,553 km of vehicle tracks and 1.218,506 km of extraction roads.

b) Forest Telecommunications

The Department maintains telecommunications system for proper forest protection and management. This telecommunication system at the end of 2012 included the following:

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

c) Forest Buildings

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

- Construction of a garage at Pareklisia forest station
- Construction of a workplace at Athalassa Nursery

Also the construction of latrines at Stavros tis Psokas forest station and one kiosk at Athalassa National Forest Park, were started. Furthermore the old buildings of "Zaharou" and "Kakos Anemos" fire lookout stations were demolished and the construction works for the new fire lookout stations began. In addition, usual repairs and maintenance works were carried out to various forest buildings.

In 2012, the three-member committee appointed by the Department of Forests in order to find a suitable building to host the headquarters of the Department in Lefkosia, continued its work and came up with a specific proposal to the Director. This proposal was adopted and forwarded through the Ministry of Agriculture, Natural Resources and Environment, to the Ministry of Finance, where there was a preliminary agreement with the owners of the building for rent. However, due to the difficult financial situation of the State, the Ministry of Finance rejected the proposal and therefore, all the procedures have suspended.

Forestry Education

In 2012, the Cyprus Forestry College completed its 61st academic year (2011 - 2012). Thirteen students, out of whom 7 Cypriots, 2 from Ghana, 2 from Lesotho and 2 from Guiana graduated during 2012.

The 62nd academic year (2012 - 2013) began on October 2nd with a complement of 25 students out of whom 23 were Cypriots and 2 from other countries. Five (5) out of 23 Cypriot students were recruited in 2012 and will begin their studies at the Forestry College in early 2013.

After 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 Section on Natural Resources with two directions, one of which will be in Forestry. During various meetings that followed, the need for an economic analysis of the proposal

with additional information emerged. The University of Technology is expected to resubmit the proposal for the final evaluation by the Ministry of Education and Culture. This is expected to take place in 2013.

During the year under review, the Learning Unit of the Department of Forests functioned successfully. The learning activities materialized in 2011 were evaluated. A plan for the learning activities of 2012, and a report for the learning needs of 2013 were prepared.

Through the Learning Unit activities of 2012, a number of officers participated in various training courses.

The training programs offered by the Cyprus Forestry College concerning the correct and safe use of chainsaws, continued. During 2012, two training courses were materialized and certification was provided to 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.