Life07 NAT/GR/000286
«Restoration of Pinus nigra forests on Mount Parnonas (GR2520006) through a structured approach»

Reforestation of 290 ha on the burnt forest of Parnonas Programme LIFE 07 NAT/GR/000286 «Restoration of Pinus nigra forests on Mount Parnonas through a structured approach»

Extended summary

April, 2010

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Extended summary

The present study has been prepared in the framework of Action A3: Technical implementation study of the project LIFE 07 NAT/GR/000286 «Restoration of *Pinus nigra* forests on Mount Parnonas (GR2520006) through a structured approach» (www.parnonaslife.gr) which is implemented by the Greek Biotope – Wetland Centre (Coordinating Beneficiary), the Region of Peloponnisos, the Management Body of mount Parnon and Moustos wetland and the Region of Eastern Macedonia – Thrace (Associated Beneficiaries) The project is funded by the DG Environment of the European Commission, the General Directorate for the Development and Protection of Forests and the Natural Environment and the project beneficiaries.

This document may be cited as follows:

Simadi, P. 2010. Reforestation of 290 ha on the burnt forest of Parnonas - extended summary. Programme LIFE 07 NAT/GR/000286 «Restoration of Pinus nigra forests on Mount Parnonas through a structured approach». Forest Service of Sparti. Sparti. 5 p.

Part A: Introduction

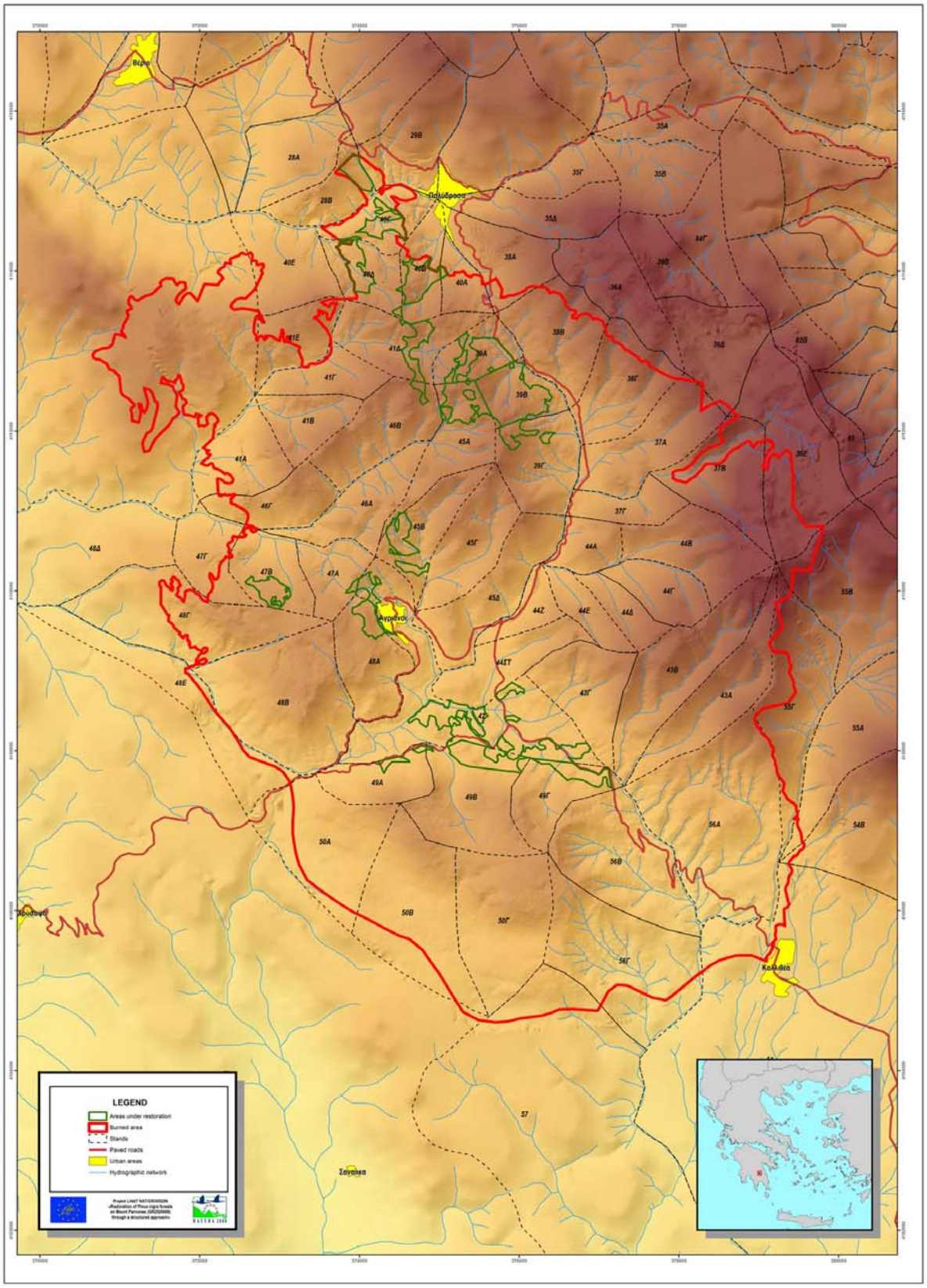
The present study was elaborated after the devastating fire of August 23, 2007 which in its full extend burned 15,295.6 ha of forests and forest land in the municipalities Geronthron and Therapnon, Lakonia Greece.

The Forest Service of Sparti, according to the forest legislation declared the burnt area under reforestation with the Decision of the Secretary General of the Region of Peloponnisos (Ref no 7182/475/25-2-2008) and two restriction orders regarding grazing of agricultural animals and hunting (ref's no 27443/5472/4/9-11-2007 and 29538/6004/6/29-11-2007 respectively). As emergency response to the impacts of the fire the Forest Service of Sparti in cooperation with other local, and regional authorities proceed to a number of measures regarding the protection against erosion and flood, repairs of damaged forest roads, logging of burnt trees, collection of cones for seed production and construction of water tanks for fire-fighting vehicles and helicopters.

This study aims at the organisation of the re-establishment of forest vegetation on 290 ha of burnt Black pine forest which was burned during the above mentioned fire. The restoration will be funded by the project LIFE 07 NAT/GR/000286 «Restoration of *Pinus nigra* forests on Mount Parnonas (GR2520006) through a structured approach».

Part B: Description of the area

The area under restoration lies in the south part of Mount Parnonas (Map 1) and is under the jurisdiction of the Forest Service of Sparti, the Directorate of Forests of Lakonia and the Direcotrate of Forests of Peloponnisos. The area is owned mainly by the Greek State apart from agricultural and urban land owned by private owners, the local municipalities and the Greek Orthodox Church. All areas prospective for restoration are owned by the Greek State.The area is connected with the regional and national road networks with paved roads accessible throughout the year and has a sufficient forest road network.



Map1. Study area and areas under restoration with green colour.

The area is mountainous with a diverse relief with plains, slopes ranging from gentle to steep, small cliffs and torrent like water streams. The altitude varies from 1,500 to 1,839 a.s.l. Its predominant land cover is forest but near the villages there are cultivations, while several areas in the lower and higher altitudes are shrublands and grasslands respectively used for animal stocking. The geomorphology of the area should be attributed to the predominant calcareous geological substrate. There are however some areas with schistolithic substrate and flysch. The predominant soil type is terra rosa with various depth and a significant proportion of rock fragments. Forest soils have mainly mor type humus. The climate is mediterranean with medium xerothermic period (less than 90 days). Mean monthly temperatures vary from 3.40C in February to 20.60C in August. Maximum precipitation occurs in December with 114 mm.

The study area is the transition zone between the Meso- and supramediterranean sclerophyllous broad-leaved woods - partly coniferous forests (Quercion ilicis) and the Xerophytic coniferous forests, woodlands and scrub (Abietion cephalonicae). In the study area four habitat types of Annex I of Habitats Directive can be found, in particular *(Sub-) Mediterranean pine forests with endemic black pines (9530), Quercus ilex forests (9340), Mediterranean pine forests with endemic Mediterranean pines (9540) and Endemic oro-Mediterranean heaths with gorse (4090). In the study area 11 fauna species included in Annex II of Habitats Directive can be found and several bird species of the open agrosylvopastoral landscapes.

In the study area the villages of Agrianoi and Polydroso are located. The main economic activity of the population is stock raising while a small number of them are seasonally occupied in forest works. Forest works in the area are mainly implemented by forest cooperatives from nearby villages or in exceptional cases by workers from other parts of Greece. Before the fire the area produced small quantities of saw wood and mainly round wood and fuel wood. Saw wood is sold outside the area while a part of round and fuel wood is disposed to the local population in reduced prices.

Part C: Restoration planning

The species that will be used on the restoration process is Black pine (Pinus nigra Arn.) which is native to the area and suitable for the soil and climatic conditions. The areas that will be restored are summing to 291 ha and were selected according to the proposals of the “Proposal to restore the black pine forests that have been affected by fires on Mount Parnonas (GR2520006)”. In this study area from 19 forest stands were proposed (Map 1). The seedlings for the restoration will be provided by the Forest Nursery of Organi (Komotini, Greece). These seedlings have been produced with seeds collected from Parnonas after the fire of 2007. The plants must be healthy, their stem must me lignified and without any scratch in their stem or root system. The transportation of the plants must be done with care especially regarding humidity which must be kept high. The seedlings will be planted in pit holes opened with hand tools. The holes should be opened carefully so the root system can penetrate easy the soil. The best season for plantings is from 15 of October to 15 of March depending on the meteorological conditions.

The works necessary for the restoration are:

- Opening of 464,000 holes
- Planting of 464,000 seedlings
- Transportation of 464,000 seedlings for 974 km from Organi.