

FORRISK Nematode Workshop

Infested Stand Management in Coimbra Region

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Ordem dos Engenheiros

Coimbra, 05 de Novembro de 2013

FNAPF - National Federation of Forest Landowners Associations is a nationwide non-profitable civic movement. It was founded on April 1st 2008, in order to actively support management, vindication and associativism in Portuguese private and communal forest.

FNAPF strives to implement a policy aimed in balancing environmental values, the community interests and economy, while represents the interests of its Organizations before the Government, its advisory bodies and other stakeholders in the forestry sector.

FNAPF currently gathers 42 Forest Landowners Organizations in the north, center and south of the country. It develops a technical and political action and represents more than 15.000 forest landowners.



Portuguese forest numbers & reality

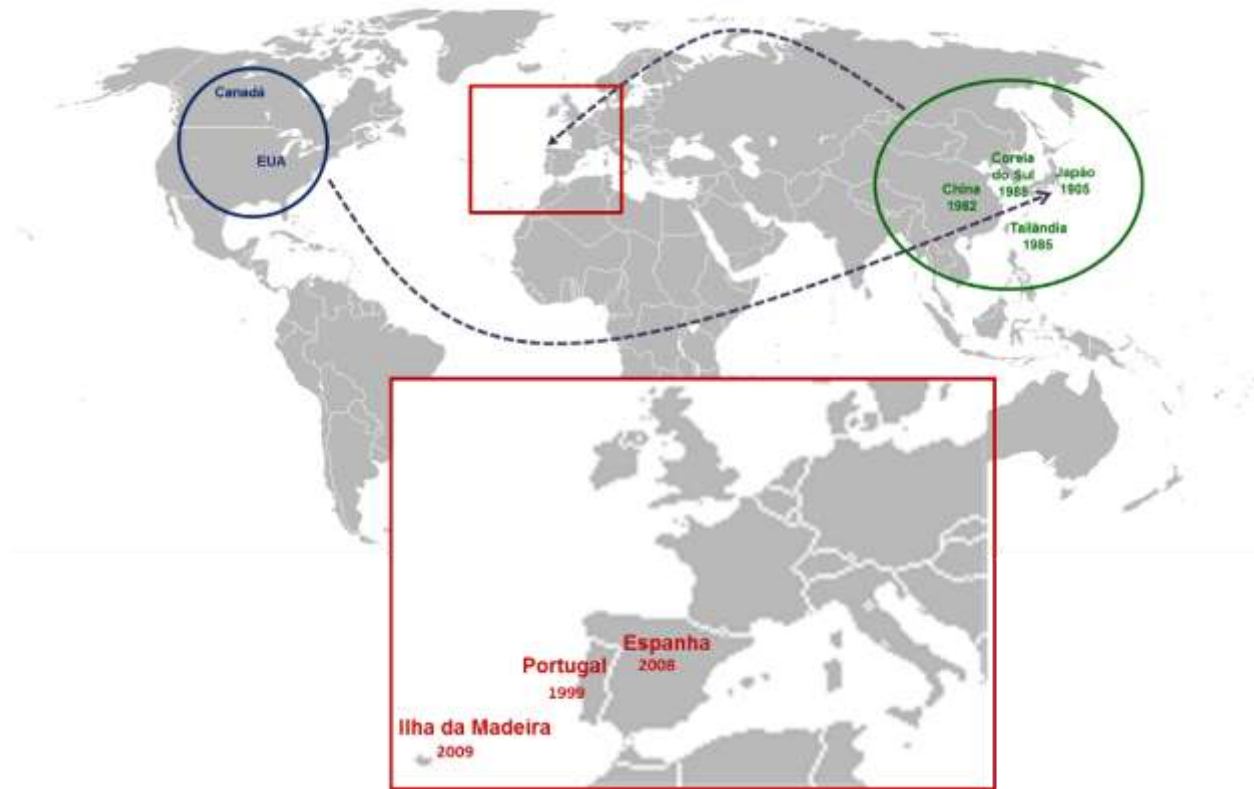
- Forests occupy about 35.4% (2010) of the mainland
- 85.5% of the Portuguese forest is private
- Only 2.7% of the Portuguese forest is public
- 11.8% of the Portuguese forest is communal
- The North and Center regions have more than 9.9 million rural properties
- 20% of the rural Portuguese territory has an unknown owner
- Depopulation of the countryside



The pine wood nematode (PWN) *Bursaphelenchus xylophilus*, the causal agent of pine wilt disease, listed as a quarantine organism by the European and Mediterranean Plant Protection Organization (EPPO), is an organism with a great destructive potential to the coniferous forests, with potential impacts in the sustainability of the stocks, in the forestry sector, in the economy and in society. The presence of the referred organism in Portugal required the implementation of prospect and control measures agreed with the European partners and consubstantiated in the Control of Pine Wood Nematode National Action Programme.



Bursaphelenchus xylophilus possible dispersion routes



Source: José Manuel Rodrigues, 2013



PWN in Portugal

1999 – Detection of the Pine Wilt Disease in the Setúbal Peninsula

Delimitation of a restriction zone (ZR), with about 309.000 ha, and according to the rules established by the European Commission grouped the affected zone (ZA) and a security zone, at least 20 km wide in around the ZA, called Buffer Zone (TZ). The remaining part of the territory where the PWN was not detected was classified as Free Zone (ZI).

1999-2000 (309.000 ha)



2006-2007 (1.010.000 ha)

In 2006/2007, the European Commission imposed the implementation of a Phytosanitary Containment Belt (FCF) on the outskirts of the ZR, free of nematode host conifers and its vector insect in order to minimize the risk of PWN dispersal (5 M trees and 23,7 M €).



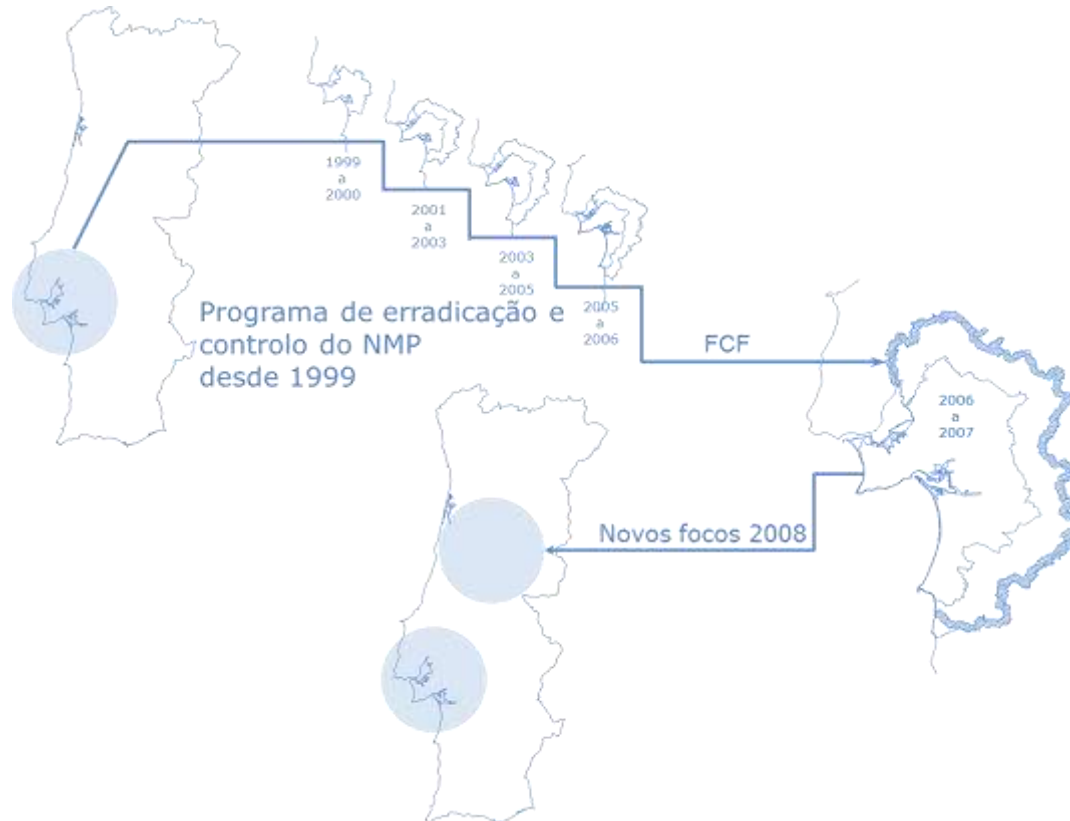
2008 – Detection of Pine Wilt Disease in the Center region

New spots were detected in 2008, specifically in the municipalities of Arganil and Lousã, and in several other locations, increasing its distribution area, and the entire mainland was declared as ZR and established a 20 km buffer zone (ZT) along the spanish border.

In 2009, the NMP was also detected in Madeira Island, having been established an Action Plan to control PWN in this Autonomous Region of Portugal.



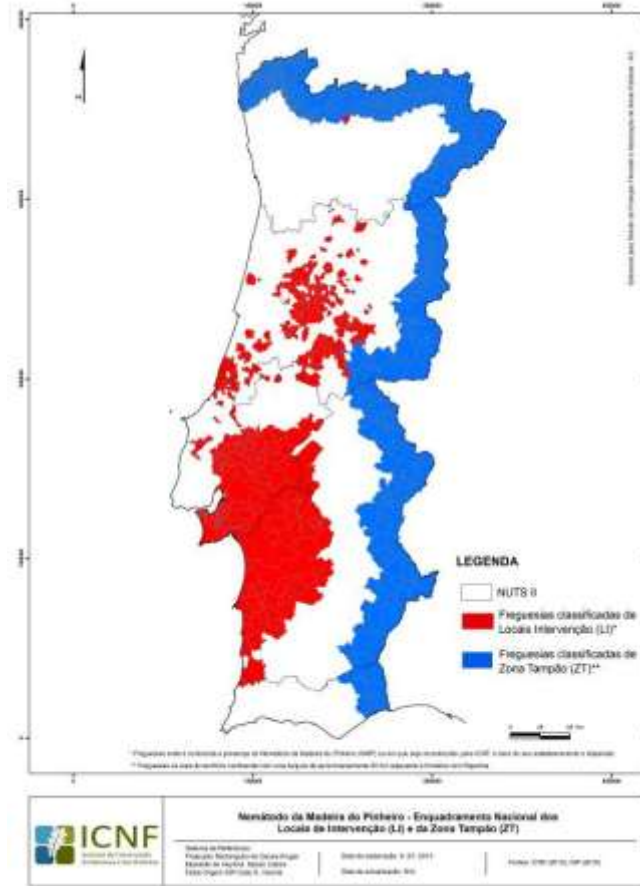
Evolution of PWD affected areas since 1999 and fitossanitary containment belt



Source: José Manuel Rodrigues, 2013



At November 2010, was signed a protocol between the National Forest Authority, IFAP, FNAPF and other 4 Forest Landowners Federations to implement integrated protective measures in the pine stands located in the most critical areas. 6.8 million euro available to combat the PWN (4 M € from the European Union Solidarity Fund).



Intervention places in 2013 (LI) and buffer zone (ZT)

(Source: ICNF)

The prospection methodology is based on a grid of 2x2 km sampling (systematic sampling) defined in the National Forest Inventory (IFN) for plots of 500 m² with pine forest. FNAPF had 1.049 plots in the national grid.



PARCEIRO (NOME DAS ORGANIZAÇÕES DE PRODUTORES E PROPRIETÁRIOS FLORESTAIS ENVOLVIDAS)	N.º DE REGISTO DA OPF (na Af)	SIGLA OPF (adoptada para efeitos do Protocolo)
Associação dos Agricultores dos Concelhos de Abrantes, Constância, Sardoal e Mação	161	AACAbrantesCSMacao
AFP - Associação Florestal de Picote	123	AFPicote
AGRIMARPE - Associação Florestal de São Martinho do Peso	139	Agrimarpe
ASSATRA - Associação Agrícola de Travanca	138	Assatra
FLORESTÁGUA - Associação de Produtores Florestais e Regantes de São Martinho	153	Florestagua
Associação dos Produtores Florestais do Concelho de Alvaiázere	132	APFCAlvaiazere
Associação de Produtores Florestais do Distrito de Portalegre	49	APFDistPortalegre
Associação dos Produtores Florestais do Paul	14	APFPAUL
Associação dos Produtores Florestais de Poiares	29	APFPoiares
Associação de Produtores Florestais do Concelho de Pombal	67	APFPombal
Terras do Minho - Associação de Desenvolvimento Rural e Agrícola	124	Terras do Minho
Atlântica - Associação Florestal dos Vales do Minho, Coura, Âncora, Vez e Lima	119	Atlantica
Caule - Associação Florestal da Beira Serra	80	Caule
Florzezere - Associação de Desenvolvimento Florestal do Concelho de Ferreira do Zezere	99	FlorZezere
SAURIUM FLORESTAL - Associação p'ra Floresta do Concelho de Soure	68	Saurium
Solo Vivo - Associação para a Promoção do Desenvolvimento Local, Rural, Agrícola, Florestal e Ambiental	77	Solo Vivo



Registrations, documents and data

- Phytosanitary registration (DGADR) + Annex X (wood and isolated bark)
- Trader registration
- Forestry manifest
- Forest Health Information Management System (data)
 - Number of symptomatic trees
 - Number of felling trees
 - Timber delivery date;
 - Receiving entity;
 - Timber delivered weight;
 - Unit price;
 - Typology.



Objectives

- Prospection and identification of symptomatic coniferous trees
- Felling and extraction of identified symptomatic coniferous trees
- Leftover destruction
- Coniferous wood appreciation
- Installation and monitorization of vector capture traps
- Promotion of PWN dispersion control actions developed by local population



Action Plan (1)

It's necessary a quick inventory of all symptomatic trees in the grid (QO) by a simple prospection. The trees are registered by GPS in order to guarantee the return to the site and then marked with a stripe of white paint (height of the chest).

After marking the trees, an information and awareness campaign will be led to the involved parish population.

Edicts will be posted in the usual places with all the usefull information (onset date work, places to intervene, the responsible entities contact, the legal measures in force and its implications for forest owners, including compulsory felling and treatment of leftover within 10 days and the action of sanitary cuts, to be made by the Association, where the felled trees become revenue for the Permanent Forest Fund.



Action Plan (2)

This prospection will be systematic and will cover the entire QO. It will be made a count of the trees to be harvested and a slight characterization of the situation, where it is assigned a code that will be retained for site identification throughout the process. It should be possible to define a "buffer strip" beyond which no symptomatic trees should exist and start to act in "outside-in", ie, the QO adjacent to the track, less affected, towards the QO most affected. The central objective of this action is the eradication of all conifers with decline symptoms in the intervention area. This action, periphery to the center, safeguards the effectiveness of this work if the eradication of all trees should not be possible in time.

The work includes eradication of symptomatic trees. This work begins 11 days after the identification of the 1st symptomatic tree and in the same order. The trees will be felled and the leftover, central part of this process, will be removed from the site and transported to a specific place whenever the quantity, access and location would permit.



Action Plan (3)

In the event of an isolated and / or in situations of difficult access it will be more advantageous to shatter into particles smaller than 3 cm or burning the residue in the site, with due care to not harm or damage the remaining trees of the stand.

After this work it is necessary a monitorization of the area to assess the progression of the PWD and to decide if it is necessary to prepare a new eradication of symptomatic trees.



Information and awareness



Prospection



Identification of symptomatic coniferous trees



Wood sampling



Felling



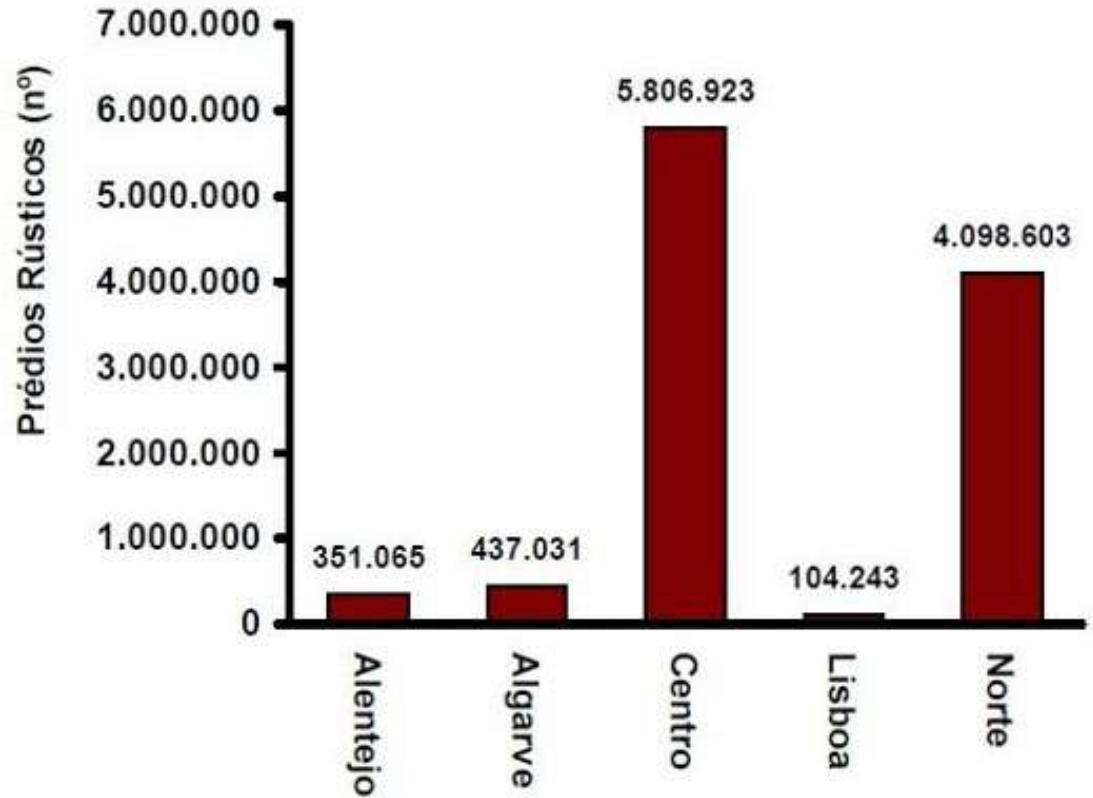
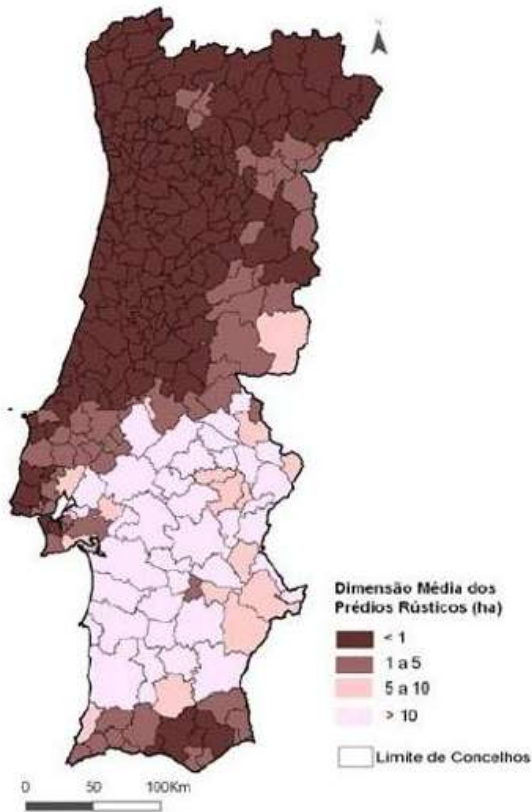
Leftover destruction



Extraction of identified symptomatic coniferous trees for wood appreciation



Constraints



Constraints

- The lack of a national awareness campaign
- Inaction in many areas of the country where the presence of NMP is confirmed
- Slow analysis of payment requests (ICNF/IFAP)
- Slow analysis of other requests (ICNF)
- Apparent disinterest of ICNF directors
- Number of rural properties and forest landowners
- Lack of rustic properties registration





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