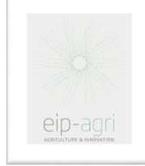


4th Forest Innovation Workshop
Firenze, Italy – 15-16/01/2020

Operational
Group EIP-AGRI



La Nouvelle-Aquitaine et l'Europe
agissent ensemble pour votre territoire

SPNA - Precision Sylviculture in Nouvelle-Aquitaine (FR)

Project management team:

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SPNA - Presentation outline

Presentation of the SPNA project

- What are the regional issues ?
- How SPNA is supposed to address them ?
- Who are the partners ?
- What is the Programme of activities ?

Synergies with the actual workshop

- EIP-AGRI on forest sector and Rural development program
- Cross-border cooperation and Opportunities through other relevant EU programmes / instruments



Regional context (1/3)

- **Regional forest = 2.8 millions hectares**
34 % of regional surface
 - **62 % Deciduous** (Oaks, chestnut)
1,73 millions ha
 - **38 % Coniferous** (pines, spruce, douglas,...) :
1,08 millions ha
- **Privately owned at 90 %**
250 000 forest owners of more than 1 ha
- + 900 000 ha under sustainable management plan
>>> one of CNPF duties



Regional context (2/3)

Maritime pine

- + 800 000 ha with 87 M m3 in stand
- 6 M m3 harvested annually and 2,6 bn € turnover (same level as Wine market)
- 3rd seed orchard generation

Since 19th century, Maritime pine is claimed to be the best adapted so far to the local conditions (sand dunes)

Weaknesses and Threats

- Storm Klaus 2009 (+320 000 ha damaged)
- Fire risks mastered by prevention of forest fire protection
- Biotic risks and Higher with climate change



SPNA shall provide foresters with a decision tool helping continuous improvement of sylviculture with new technology !



Regional context (3/3)

Chestnut

France has 50% of the world surface

- + 250 000 ha (2nd species after oaks)
- 38 400 m³/year of raw timber (35% national harvest)
- 21 500 m³ /year of sawn timber (64 % national harvest)



Weaknesses and Threats

- Important dieback increased by climate change
 - Drought risk higher since 2003
 - Favourable conditions for pests and diseases
 - Lack of active sylviculture
- Biotic risks
 - Chestnut blight (*Cryphonectria parasitica*)
 - Chestnut ink (*Phytophthora cinnamomi* and *cambivora*)
 - Chestnut gall wasp (*Cynips*)



SPNA shall improve and boost chestnut sylviculture with a set of decision tools !



SPNA in a nutshell

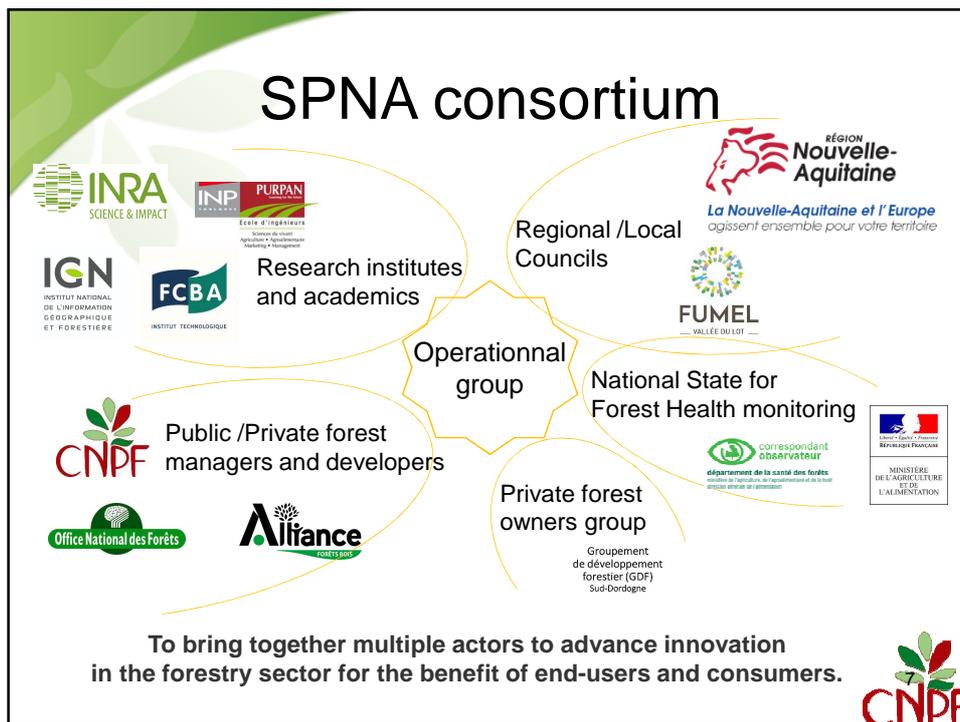
- **3-year program** from 01/06/2019 to 31/05/2022
- 493 123 €
- 10 partners

- Funding via **Rural Development Program (RDP)** in Nouvelle-Aquitaine :
 - EAFRD : 209 508 €
 - Council of Nouvelle-Aquitaine Region : 185 790 €
 - Self-financing : 98 825 €



- Focus on 2 tree species relevant for regional economy and landscape in a climate change context.
- **Maritime pine**, the objective is to develop a smartphone app that will help foresters after some field measurements, deciding whether or not it's time for thinning.
- **Chestnut**, the aim is to provide foresters and communities with a set of innovative and digital tools in order to boost sylviculture





Focus on Maritime pine

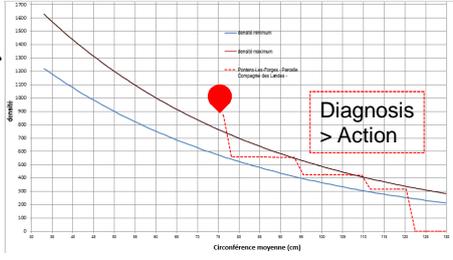
- Create a **smartphone application** that will help foresters after some field measurements, deciding whether or not it's time for thinning
- Develop from this app a **participative sylviculture database** in different Maritime pine planted forests
- Improve the growth model used and created by INRA and FCBA



SPNA



Stand description
Field measurements



Stand density

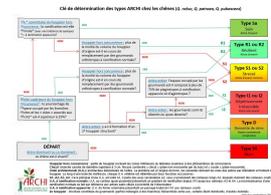
Stem girth

Diagnosis > Action

Focus on chestnut ^(1/6)

At local /tree scale

- Train foresters to the **ARCHI** chestnut tool to diagnosis tree's health status



Dichotomous /identification key integrated in a smartphone app for trained foresters



Focus on chestnut ^(2/6)

At local /tree scale

- Apply and test the **BIOCLIMSOL** application



- **Bio** stands for biological data such as tree health,
- **Clim** stands for climatic data such as temperature, wind, and droughts,
- **Sol** stands for soil and its positive or negative effects on water availability.



Diagnose the forest, soil and climate conditions of the local site to assess which tree species are suitable regarding the climate change.



Focus on chestnut ^(3/6)

At local /tree scale

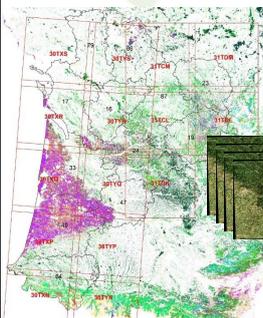
- Set up **marteloscopes** with the goal of training foresters to silviculture.



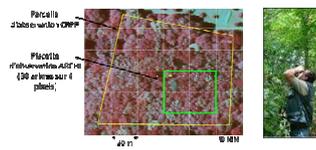
Focus on chestnut ^(4/6)

At macro /forest massif scale

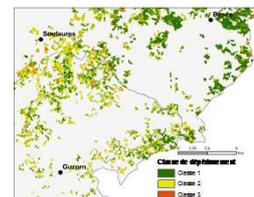
- Better assess the forest stands on an annual basis in quantity and quality regarding health risks and using **remote sensing tools**.



From satellite data



Field observation (ARCHI) for calibration and validation



Mapping of chestnut dieback



Focus on chestnut ^(5/6)

At local /tree scale

- Train and test the **Vigil'encre** app (by INRA) to signal any diseased chestnut tree by promoting citizen surveillance *via* the use of a collaborative reporting tool.
- Disseminate knowledge on the ink disease caused by *Phytophthora cinnamomi* and *P. cambivora* .



Vigil'encre application :
Web interface

http://ephytia.inra.fr/fr/P/157/Vigil_encre



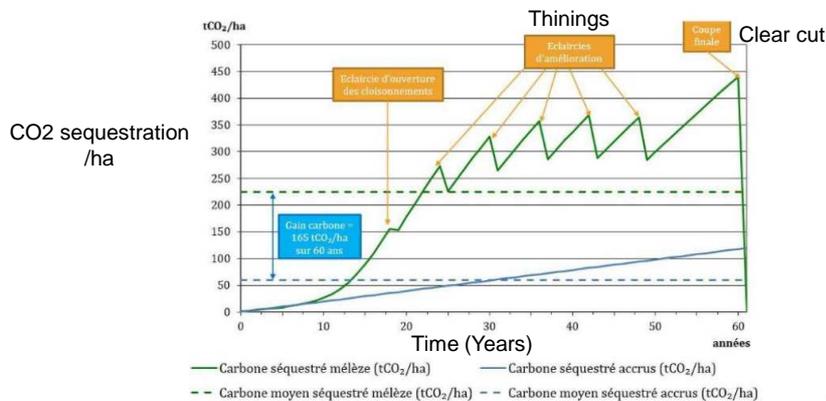
Reporting form



Focus on chestnut ^(6/6)

At macro /forest massif scale

- Develop a **CLIMAFOR** tool to evaluate the carbone stock of chestnut tree stands according to different sylvicultures.
- Extension workshops and local meetings for the implementation of these sylvicultural itineraries (local community of Fumélois)



Synergies with the actual workshop

(1/2)

EIP-AGRI on forest sector and Rural development program

Projects - Operational groups <https://ec.europa.eu/eip/agriculture/en>

Fulltext search: Contains any of these words
Geographical location: Choose some options
Keywords: Forestry x

Search Reset

Results after a quick request on Operational Groups on “forestry” topic :

- SPNA is not listed yet ?
- 2 OGs seem relevant for SPNA :
 - e.g.: New techniques for monitoring the carbon balance and the state of health of wood and fruit chestnut trees - Talking Chestnuts (contact r.ranieri@openfields.it)
 - e.g.: Technical innovation and carbon capture on management of state-owned forests of Alto Appennino Modenese (contact direttore@parchiemiliacentrale.it)

➔ The EIP-AGRI Service Point could organise thematic workshops and invite project leaders like today.



Synergies with the actual workshop

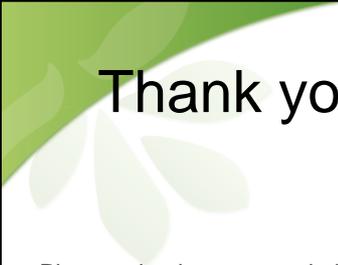
(2/2)

Cross-border cooperation and Opportunities through other relevant EU programmes / instruments

The EIP-AGRI Service Point in combination with National /Rural Network could help forest actors:

- ➔ • Inventory and update the different projects (EIP or any EU project) on forestry and sub-thematics
- ➔ • Organize workshops according to geography (cross-border or interregional) and thematics (specific thematic) relevance for cooperation.





Thank you for your attention ! Merci !

Please, check out our websites :

CNPF: <https://www.cnpf.fr/n/international-and-european-cooperation/n:1993>

CNPF Nouvelle-Aquitaine: <https://www.nouvelle-aquitaine.cnpf.fr/>

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