FABIO PETRELLA - IPLAspa

KYOTO PROTOCOL AND DEVELOPMENTS from 1997 to today:
The valorization of ecosystem services of urban and extra-urban forests

- Calculation and management of agricultural and forestry carbon stocks in Piedmont.
- Examples and governance of the carbon credit market and current implementation with Ecosystem Services and urban greenery

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REGIONE PIEMONTE

Piedmont Region: objectives achieved in 20 years of collaboration between the regional Forests and Environment Depts and Ipla

Integrate and enhance scientific, economic and policy knowledge on the tools for implementing the Kyoto and post-Kyoto commitments, in particular on the role of agro-forestry heritage and its management.

Promote the development of sustainable forestry and agricultural management in the territorial and economic context of the Piedmont Region

Equip public decision-makers, experts, operators and public opinion with adequate knowledge tools to address the needs and obligations to reduce greenhouse gases for the prevention of climate change

Creation of a voluntary carbon credit market

Measure the consistency and provide a complete picture of regional C reserves

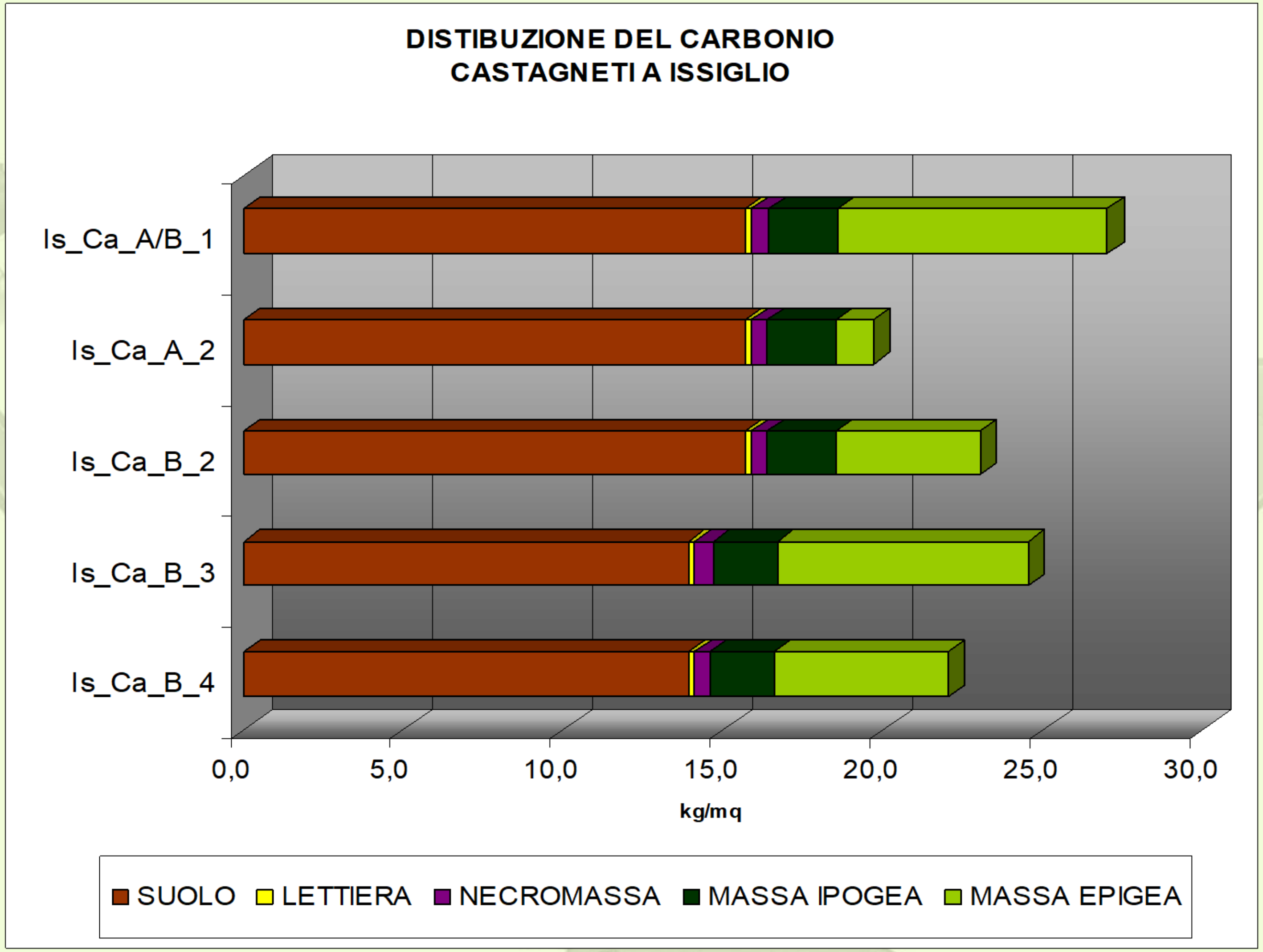
Creation of an interregional and national exchange network for:

- Validation of calculation algorithms
- Drafting of guidelines
- Creation of standard protocols for certification

Eddy Covariance Station placed in the regional park 'La Mandria' in the frame of international CO2 flux measurement (Carboeurope and Fluxnet)

Site: Parco "La Mandria", Venaria, Torino, Italy
Status:Continuous
Began: September, 2002
Site Type:Flux Tower
Instruments:Open path
Biome:
broadleaf oak forest, temperate

CARBON BALANCE IN CHESTNUT WOODS



SOIL LITTER NECROMASS BELOW GROUND BIOMASS ABOVE GROUND BIOMASS

Activities carried out to support the creation of the carbon market in Piedmont.

- Evaluation of the effects of typical silvicultural interventions on carbon sinks;
- Economic and environmental evaluation;
- Assessments for sustainable forestry and agricultural management and scenario forecasting.
- Partecipation to International projects such as Forest Ecovalue

Green City

The urban riforestation project realised by IPLA and RP with the FPT sponsorship

The regional "Urban Forestry" project aims to draft guidelines to provide and enhance the ecosystem services provided by urban greenery on the basis of monitoring, data and processing provided by pilot areas.

in collaboration with CNR

Valentino Park is a carbon sink: 22.6 tons of carbon per year

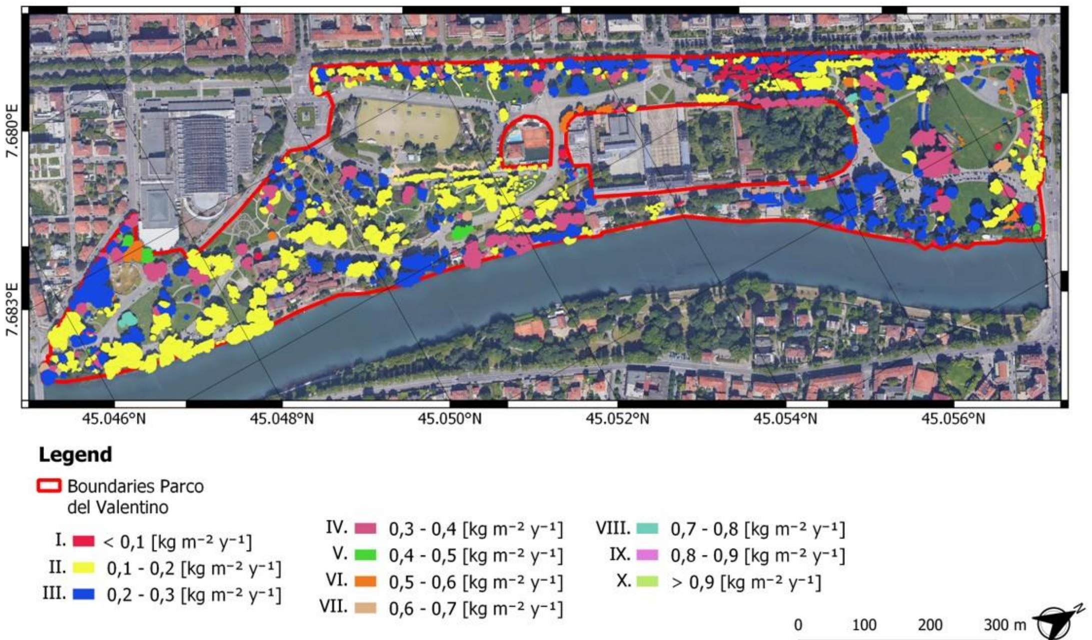
Carbon removal differs depending on the species considered: 69 species measured, 1646 individuals

Conifers have a higher carbon removal potential (NPP) than deciduous trees, in particular:

- **Taxodium distichum (761.59 g (C) m^2 y^{-1})**
- **Pseudotsuga menziesii (640.81 g(C) m^2 y^{-1})**
- **Abies alba (611.16 g(C) m^2 y^{-1})**

The broad-leaved trees that demonstrated the best performances in carbon removal were:

- **Corylus avellana (386 g(C) m^2 y^{-1})**
- **Platanus occidentalis (361 g(C) m^2 y^{-1})**
- **Acer campestre (358 g(C) m^2 y^{-1})**
- **Aesculus hippocastanum (327 g(C) m^2 y^{-1})**



Thanks for the attention