



URBAN FORESTRY BRIDGES 2006

URBAN FORESTRY: bridging cultures, disciplines, old attitudes & new demands

9th European Forum on Urban Forestry

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Edited by

**Francesco Ferrini, Fabio Salbitano and
Giovanni Sanesi**



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Presentation of the 9th European Forum on Urban Forestry

Urban Forestry Bridges 2006

Urban Forestry: bridging cultures, disciplines, old and new demands

Urban forests, trees and green spaces contribute significantly to certain social and ecological needs of urban dwellers. Whenever we approach urban forests and green spaces we have to “bridge” them with cultures, techniques, demands and values. “Building bridges” is therefore one of the main issues in urban forestry. The results of this 9th European Forum can contribute to the urban forestry theme by focusing on the new perspectives and “bridges” with other scientific domains. In this Forum researchers and technicians shared experiences coming from different cities of the world and discussed the status of Urban Forestry. This book collects all the presentations held in the Forum regarding theory, forest management, applications and case studies.

PROGRAMME

Tuesday 23/05 Vallombrosa

08.15-08.30 Registration

08.30-08.45 Mayor of Reggello, **Sergio Benedetti**

08.45-09.05 Administrator of ARSIA - Tuscany Region, **Maria Grazia Mammuccini**

09.05-09.20 President of AISF, **Fiorenzo Mancini**

09.20-09.40 IUFRO delegate, **Cecil Konijnendijk**

09.40-10.20 Keynote speaker: **Robert W. Miller**, University of Wisconsin, Stevens Point, USA

10.20-11.00 Keynote speaker: **Michelle Gauthier**, Fao, Rome, Italy

Plenary session

11.20-11.40 **Roland Gustavsson** Department of Landscape Planning, SLU, Alnarp, Sweden.

Insiders and newcomers: developing environmental aesthetics and rethinking earlier aesthetic dimensions and design in an expansive urban forestry field of today

11.40-12.00 **Moshe Shaler**, Keren kayemeth Le'Israel (KKL), Israel, **Cecil Konijnendijk**, woodSCAPE consult, Dragoer, Denmark

The start up of the movement of urban & community forestry in Israel

12.00-12.20 **Francesco Ferrini**, Department DOFI, University of Florence, Florence, Italy, **Fabio Salbitano**, Department DISTAF, University of Florence, Florence, Italy, **Giovanni Sanesi** Department DSPV University of Bari, Bari, Italy

Urban forestry: from a multifunctional approach to a bridging towards other disciplines

Plenary session

14.00-14.20 **Ellyn Shea** Friends of the Urban Forest, San Francisco, USA

25 Years and Growing: An Urban Forestry Non-Profit Looks Back and Ahead

14.20-14.40 **Paolo Semenzato**, **Vinicio Carraro**, **Dina Cattaneo**, **Tommaso Sitzia**

Department TeSAF, University of Padua, Italy

An urban natural preserve: managing a site of community importance (sci) in an urbanized environment

- 14.40-15.00 **Andreas Keil**, Institute of Geography and Didactics of Geography, University of Dortmund, Germany, **Orhan Güleş**, Ruhr-University of Bochum, Germany
Urban Nature – Perception, Adoption and Evaluation of Urban Nature by Turkish Migrants in the Ruhr conurbation under Special Consideration of Urban-Industrial Woodlands
- 15.00-15.20 **Astrid Hamm**, Consultant Arborist, Germany
A landscape laboratory in Germany – reaching out for new landscape concepts
- 15.35-15.55 **Riccioli Francesco, Scozzafava Gabriele**, Department of Agricultural and Land Economics, University of Florence, Italy
Evaluation of green urban areas: some study cases in Florence
- 15.55-16.15 **Joanna Dean**, Carleton University, Ottawa, Canada
An Oxymoron?: The Canadian origins of the term “urban forest”

Wednesday 24/05 Vallombrosa

Session A

- 08.30-08.50 **Enrico Marone, Roberto Fratini**, Department of Agricultural and Land Economics, University of Florence, Florence, Italy
Evaluation of efficiency of public spending for management of green urban areas
- 08.50-09.10 **Clive Davies**, North East Community Forests, Dunston, England, **Robert MacFarlane**, Centre for Environmental and Spatial Analysis, Northumbria University, Newcastle upon Tyne, England, **Maggie Roe**, Landscape Research Group, Newcastle University, Newcastle upon Tyne, England
Green infrastructure and the sustainable city: A decision support guide for planning Green Infrastructure
- 09.10-09.30 **Julien Dellier**, GEOLAB, Université de Limoges, France
Building bridges, use in a geographical approach
- 09.30-09.50 **Ylva Birkne**, National Board of Forestry, Stockholm, Sweden.
Are open fires allowed here?

Session B

- 08.30-08.50 **Sandro Parrinello, Stefano Bertocci**, Department DPA, University of Florence, Florence, Italy, **Angelo Niccoli**, CRA. – ISZA, Florence, Italy, **Riziero Tiberi**, Department DIBA, University of Florence, Florence, Italy
The management of green areas in the urban environment
- 08.50-09.10 **Guy Wedderburn**, Bell Ingram, Falkirk, Scotland, UK, **Richard Broadley & Ian Edwards**, Falkirk Council, Falkirk, Scotland, UK
Falkirk urban woodland strategy: a case study
- 09.10-09.30 **Silvano Fares, Francesco Loreto** CNR – IBAF, Monterotondo Scalo (Rome), Italy
Ozone uptake by urban forests: the case of Quercus ilex
- 09.30-09.50 **Michael R. Kuhns**, Department of Forest, Range & Wildlife Sciences, Utah State University, USA
Utility tree pruning and what people think about it: results of a study in the Western United States

Plenary session

- 10.20-10.40 **John Riggers**, Larenstein University of Professional Education,
Velp, the Netherlands
*Building bridges between Nature management and Health care studies
Development of a professional study programme for health care and
nature management students which studies the effects of nature on
human well being*
- 10.40-11.00 **Eva Gustavsson**, Department of Landscape Planning, SLU,
Alnarp, Sweden
*Aesthetic perspectives of dwelling the importance of humanistic
research approaches in urban forestry*
- 11.00-11.20 **Phillip D. Rodbell**, United States Forest Service, Pennsylvania,
USA
*Urban forestry in the Northeast United States: bridging trees, people
and places*
- 11.20-11.40 **Kirsi Mäkinen**, University of Helsinki, Dept. of Forest Ecology,
Helsinki, Finland, **Liisa Tyrväinen**, Finnish Forest Research Institute,
Rovaniemi Research Station, Rovaniemi, Finland
*Youth experiences of public green areas: Social values of green areas
reflected through local knowledge*

Thursday 25/05 Vallombrosa

Session A

- 08.30-08.50 **Agrimi M., Bollati S., Borgna A., Portoghesi L.**, Department DISAFRI, University of Tuscia, Viterbo, Italy, **Romagnoli M. & Sarlatto**, Department DAF, University of Tuscia, Viterbo, Italy
The inventory and management of the woodland within the historical park of the Farnese palace of Caprarola: a contribution to the inventory of the forest stands within historical parks
- 08.50-09.10 **Giuseppe Carrus** Department of Educational Sciences, University of Roma Tre, Rome, Italy, **Paola Passafaro, Mirilia Bonnes**, Department of Social and Developmental Psychology University of Rome "La Sapienza", Rome, Italy
Attitudes towards urban green space, perceived residential quality and neighbourhood attachment in the city of Rome
- 09.10-09.30 **James Cooper, Nick Collinson**, Woodland Trust, Grantham, Lincolnshire, UK.
Space for people: targeting action for woodland access
- 09.30-09.50 **Giovanni Morelli**, Studio Associato PROGETTO VERDE, Ferrara, Italy, **Stefania Gasperini**, AR .ES., Ferrara, Italy, **Mark Duntemann**, Natural Path Urban Forestry, Illinois, USA
The Tree Inventory as a Proactive Management Tool: Experiences from the Municipalities of Cervia, Italy and Oak Park, USA
- 09.50-10.10 **Mario Broll**, Forest service, Autonomous Province of Bolzano, Bolzano, Italy, *P.A.C.E. - Participation And Communication of Emotions Kids needs wilderness*
- 10.30-10.50 **Marialuisa Cipriani**, Professional, Rimini, Italy, **Claudia Morri**, Professional, Rimini, Italy, **Bernhard Neulichedl**, Professional, Rimini, Italy, **Fabio Salbitano**, Department DISTAF, University of Florence, Florence, Italy, **Ann Van Herzele**, Department of Human Ecology, Free University of Brussels, Brussels, Belgium,
Does the forest walk? Institutional capacity building and urban parks design along a participatory approach
- 10.50-11.20 **Raffaele Laforteza, Giovanni Sanesi, Ivana Dentamaro**, greenLab, Department DSPV, University of Bari, Bari, Italy, **Janine Ogilvie & Clive Davies**, North East Community Forests, The GreenHouse, Greencroft, Durham, England.
The psychological side of human health in relation to climate conditions and forest areas
- 11.20-11.40 **Jasper Schipperijn**, Danish Centre for Forest, Landscape and Planning, KVL, Frederiksberg, Denmark, **Jens Troelsen**, Institute of Sports Science and Biomechanics, University of Southern Denmark,

Odense, Denmark, **Thomas B. Randrup**, Danish Centre for Forest, Landscape and Planning, KVL, Frederiksberg, Denmark
*The relation between human health and the use of urban green space
 - Results of a case study in the city of Odense, Denmark*

Session B

- 08.50-09.10 **Michael R. Kuhns**, Department of Forest, Range & Wildlife Sciences, Utah State University, Logan, Utah, USA
The importance of large trees to our communities and how to allow for them
- 09.10-09.30 **Francesco Ferrini**, Department DOFI, University of Florence, Florence, Italy, **Arne Sæbø**, Bioforsk, Kleppe, Norway, **Alessio Fini**, Department DOFI, University of Florence, Florence, Italy, **Manuela Baietto**, **Antonio Ferrante**, Department PSV, University of Milan, Milan Italy, **Gabriele Amoroso**, **Piero Frangi**, Minoprio Foundation, Vertemate con Minoprio (Como), Italy
The effects of irrigation and mulching on growth and physiology of some shade tree species
- 09.30-09.50 **Arne Sæbø**, Bioforsk, Kleppe, Norway, **Gabriele Amoroso**, **Piero Frangi**, Minoprio Foundation, Vertemate con Minoprio (Como), Italy, **Alessio Fini**, **Francesco Ferrini**, Department DOFI, University of Florence, Florence, Italy
Release from winter dormancy in trees used in the urban green areas in Northern and Southern Europe
- 09.50-10.10 **Mario Vannuccini**, Studio Associato Eureco, Pistoia, Italy, **Martina Giachini**, Professional, Pistoia, Italy, **Davide Giorgi**, Professional, Pistoia, Italy, **Renato Ferretti**, Territorial Resources Planning Service – Province of Pistoia, Pistoia, Italy
Monumental trees inventories at different scales: objectives and perspectives
- 10.30-10.50 **Mark Duntemann**, Natural Path Urban Forestry, Illinois, USA
The Tree Inventory as a Management Tool
- 10.50-11.20 **Nicola Luchi**, **Paolo Capretti**, Department DIBA, University of Florence, Florence, Italy, **Pamela Pinzani**, **Claudio Orlando**, **Mario Pazzagli**, Department of Clinical Physiopathology, University of Florence, Florence, Italy
Early detection of fungal tree pathogens by real-time PCR
- 11.20-11.40 **Julia Bartens**, Virginia Tech. Dept. of Horticulture, Blacksburg, USA, **Susan D. Day**, Virginia Tech. Dept. of Forestry, Blacksburg, USA, **Roger Harris**, Virginia Tech. Dept. of Horticulture, Blacksburg, USA
Trees and structural soil as a storm water management system in urban settings. Tree development and contribution

Poster session

Matteo Feducci, Gianni Masi, Paolo Capretti, Department DIBA – Sect. of Vegetal Pathology, University of Florence, Florence, Italy
Environmental conditions and cypress canker disease in Tuscany evaluated by GIS technology

Cristina Nali, Alessandra Arancini & Giacomo Lorenzini, Department "Giovanni Scaramuzzi", University of Pisa, Pisa, Italy
Monitoring and biomonitoring of urban air pollution in Florence, Italy

Francesco Paolo Nicese, Francesco Ferrini, Tommaso Pasquini, Department DOFI, University of Florence, Florence, Italy
Identification of quality standards for nursery stock production

Tiziana Panzavolta, Department DIBA, University of Florence, Florence, Italy, **Giuseppino Sabbatini Peverieri, Lorenzo Marziali**, CRA - ISZA, Florence, Italy, **Luigi Buonomo, Riziero Tiberi**, Department DIBA, University of Florence, Florence, Italy
The horse chestnut leaf miner in Tuscany

Fabrizio Pennacchio, CRA - ISZA, Florence, Italy, **Riziero Tiberi**, Department DIBA, University of Florence, Florence, Italy
*Infestation by *Cerambyx spp.*, on *Quercus ilex* in Florence*

Giuseppino Sabbatini Peverieri, CRA - ISZA, Florence, Italy, **Tiziana Panzavolta**, Department DIBA, University of Florence, Florence, Italy, **Leonardo Marianelli**, C.R.A. - ISZA, Florence, Italy, **Alessandro Ragazzi, Riziero Tiberi**, Department DIBA, University of Florence, Florence, Italy
Insects and plant-pathogenic fungi in the decline of trees in urban and sub-urban areas in Italy

Giovanni Sanesi, Raffaele Laforteza, Giuseppe Colangelo, Department DSPV, University of Bari, Bari, Italy, **Alberto Abrami**, Department of Agricultural and Land Economics, University of Florence, Florence, Italy, **Riziero Tiberi**, Department DIBA, University of Florence, Florence, Italy, **Fabio Salbitano**, Italian Academy of Forest Science, Florence, Italy, **Francesco Nicese, Francesco Ferrini**, Department DOFI, University of Florence, Florence, Italy, **Gabriele Villa**, Demetra coop, Besana Brianza, Italy
RISVEM: a multidisciplinary research project

Giovanni Sanesi, Raffaele Laforteza, Giuseppe Colangelo, Department DSPV, University of Bari, Bari, Italy, **Gabriele Villa, Stefano Fiorillo, Cristian Rancati**, Demetra coop, Besana Brianza, Italy

Methods of urban green spaces inventory in RISVEM project

Gabriele Villa, Stefano Fiorillo, Cristian Rancati, Demetra coop, Besana Brianza, Italy

RF-ID (Radio Frequency Identification) technology for trees management in urban context – RISVEM project

Caterina Villari, Department DIBA, sect. Vegetal Pathology, University of Florence, Florence, Italy, **Giuseppino Sabbatini Peverieri & Rizio Tiberi**, Department DIBA, sect. Entomology, University of Florence, Florence, Italy, **Paolo Capretti**, Department DIBA, sect. Vegetal Pathology, University of Florence, Florence, Italy,

The occurrence of fungal diseases on pine trees and their relationship with bark beetles

Presentation Abstracts
(In chronological order)

THE ROOTS OF URBAN FORESTRY

Robert W. Miller

Emeritus Professor of Urban Forestry
University of Wisconsin – Stevens Point, USA

Trees and forests are a part of human evolution and connect modern urban humanity to our origins in the ecosystem. Upon leaving the savannas and forests for permanent settlements we have long carried trees and other aspects of nature into our settlements for both functional and aesthetic reasons. However, the modern practice of including trees, parks and forests as an integral part of urban design is of relatively recent origin. Urban forestry has its roots primarily in the 18th and 19th centuries, but only emerged as a distinct scientific and management discipline in the late 20th century. Urban forestry draws from horticulture, arboriculture, silviculture, forest management, planning and ecology, but stands alone as a science. Urban forestry is ecosystem based, and is practiced on a continuum from the individual tree through urban woodlands and ultimately connects with the management of rural forests.

Biography

Dr. Robert Miller is Emeritus Professor of Urban Forestry at the University of Wisconsin. Bob Miller retired from the University of Wisconsin – Stevens Point after 30 years teaching and researching in Arboriculture and Urban Forestry. He has published numerous papers on these topics and is the author of the textbook, *Urban Forestry: Planning and Managing Urban Greenspaces*, 2nd edition.

Prof. Miller continues to consult and teach short courses, is the Editor of the *Journal of Arboriculture*, chair of the TREE Fund Research Committee and a member of the Oriental, NC Tree Board.

URBAN AND PERIURBAN FORESTRY COMBATING POVERTY: THE KEY-ROLE OF FOOD AND AGRICULTURE ORGANISATION OF THE UNITED NATIONS

Michelle Gauthier, FAO

Forest Conservation Division (FORC), Forestry Department, FAO, Rome, Italy

The Food and Agriculture Organization of the United Nations (FAO) leads international efforts to defeat hunger. Serving both developed and developing countries, FAO acts as a neutral forum where all nations meet as equals to negotiate agreements and debate policy. FAO helps developing countries and countries in transition modernize and improve agriculture, forestry and fisheries practices and ensure good nutrition for all. As world's poor and hungry people are almost equally living in rural and urban areas, FAO is increasingly addressing issues related to urban and peri-urban environment. Indeed, if poverty is not tackled in cities, the goals and target of the Millennium Development Goals (MDG) will not be reached, in particular Goal 1 "halve, between 1990 and 2015, the proportion of people whose income is less than \$1 a day" and Goal 7 "Ensure environmental sustainability".

The promotion of urban forestry and greening is particularly challenging - but all the more necessary - in cities which face chronic and acute problems related to the depletion of the natural resources basis, the need for essential agricultural products, wood-energy and water, the fight against erosion, sand encroachment and floods, as well as the control of air and water pollution. Urban foresters need to address issues such as maintaining a sustainable ecosystem continuum from urban to rural areas or determining the cover of trees and forests in and around human settlements. The presentation will look at the potential of urban and peri-urban forestry and greening and at the role of FAO.

The presentation will draw from the experience gained through different initiatives and processes: i) the FAO Priority Areas for Inter-disciplinary Action (PAIA) "Food for the Cities" ; ii) the FAO Regional Forestry Outlook Study in West and Central Asia (FOWECA) and case studies in Abu Dhabi, Amman, Izmir, Kabul, Yerevan; and, iii) the "Disaster Prevention, Mitigation and Preparedness and Post-Emergency Relief and Rehabilitation" activities.

Key words

Developing Countries, FAO, Food Security, Livelihoods, Millenium Development Goals, Sustainable Development; Urban and Peri-urban Forestry and Greening; Urbanization.

Biography

Michelle Gauthier: Forest Engineer (Laval University, Canada) in 1978. Some employers : Ministry of Natural Resources – Québec (Canada), CARE-Canada, CIDA (Canada), CBD-UNEP, FAO, Roche Itée, groupe conseil (Canada), Centre d'Entraide Universitaire Canadien – SUCO (Canada), SIDA (Sweden). Expertise in all regions; main geographical area of expertise : South and Central America, West Africa. Normative field of expertise: Agroforestry, land use, participatory approaches and social forestry, trees outside forests, urban and peri-urban forestry. Current position: Agroforestry officer, Forest Resources Division, FAO, Rome. In charge of urban and peri-urban forestry programme.

INSIDERS AND NEWCOMERS
DEVELOPING ENVIRONMENTAL AESTHETICS AND RETHINKING EARLIER
AESTHETIC DIMENSIONS AND DESIGN IN AN EXPANSIVE URBAN FORESTRY
FIELD OF TODAY

Roland Gustavsson

Department of Landscape Planning, SLU, Alnarp, Sweden.
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During the second half of the 20th century urban forestry planning and management lost most of the aesthetic motives and dropped the design skills in favour of environmental issues. Beauty as well as the scenic became suddenly interpreted as something shallow and in contrast to good environmental behaviour, and it was marginalised and hunted out of the century. In the design of city parks aesthetics was still highlighted but further out production, biodiversity and cultural heritage were divided from aesthetics. Landscape architecture became reduced, and was seldom linked to production issues. Art and architecture went other ways. Aesthetics was reduced to preference studies. This paper does not have as the main aim to dig deeper of the reasons for this. Rather, it is based on the assumption that aesthetics is maybe the most central dimension in urban forestry management. Rather than hide or even neglect this, it should become re-recognised and developed. If revisiting aesthetics and design, new contexts and situations in the society mean a new need of theories. Also, new interpretations of old concepts will become different if we bring them up again. The deeper meaning of The Pastoral, The Picturesque, The Baroque, The Wilderness and the Modernistic should be revisited as concepts.

In the 1980ies environmental questions became highlighted in the society, and, this was followed by a special branch called "environmental aesthetics" in USA and Canada, but with few exceptions it has so far not been developed in Europe. In environmental aesthetics, aesthetics basically means how we physically express ourselves in the environment and what that will mean for people. This presentation aims to discuss some thoughts taken up as key aspects by pioneers within environmental aesthetics. Examples from two development projects during 2005 will be used to show linkages to practical issues. Newcomers, insiders, professionals as well as the local users are all considered as carriers of aesthetics and will be discussed.

Key words

Environmental aesthetics, communicative planning, local actors.

Key references

Berleant A., 2004. Re-thinking Aesthetics: Rogue Essays on Aesthetics and the Arts, Ashgate Publishing Limited, 185p.

Gustavsson R., Hermy M., Konijnendijk C. & Steidle-Schwahn A., 2005. Management of Urban Woodland and Parks – Searching for Creative and Sustainable Concepts. In: Konijnendijk et al (eds), Urban Forests and Trees, Springer: 369-397.

Biography

Professor, Agr. Dr., landscape architect Roland Gustavsson. Both in the research and teaching Roland Gustavsson has through the years tried to bridge in between human and nature sciences, design and analytic traditions. Hereby giving particular attention to a spectrum of issues, like multiple use planning, landscape dynamics, urban forestry, landscape management, knowledge cultures and management styles, communicative approaches, and the integration of aesthetic values. Considering type of areas and context the research has focused on multiple use and recreation areas, urban rural fringe landscapes, urban park and nature network in cities, and afforestation projects.

BRIDGING BETWEEN FORESTS, CITIES, CLIMATE
AND HUMAN-CULTURAL DIVERSITY¹Moshe Shaler, ²Cecil Konijnendijk¹Keren kayemeth Le'Israel (KKL), Israel
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Israel is uniquely located geographically and comprises a mixture of human and natural systems in a relatively small (30,000 km²) area.

- It is situated at the meeting point of Europe, Asia and Africa.
- The country provides a bridge between three phytogeographic regions: Mediterranean, Irano-Turanian and Saharo-Arabian.
- Its cultural diversity is reflected in its 7 million people from many origins – Europe, America, Africa and Asia.
- Six percent of the wooded area in the country is either planted forests (92,000 hectares, 220 million trees, planted by KKL, the non-governmental organisation managing the country's forests) or tended native woodland (50,000 hectares).
- In 2004, Israel had a population density of 300 people per km² (countrywide) and 1900 inhabitants/km². More than 91% of the population resides in urban settlements.

Rapid population growth had led to ongoing development of existing and new communities, roads and infrastructure. This creates tremendous pressure on green open spaces, including forest areas. Threats to forest and forest fragmentation are particularly severe near settlements – in what could be called community forests.

Community forests in Israel are usually small and under intense development pressure. Until three years ago the KKL management policy was similar in community and traditional forests. Since then KKL has studied and assimilated urban and community forestry schemes to create a start-up of community forestry in Israel. The *first stage* of the process included:

- Preservation and enhancement of community forests and their natural and cultural heritage, minimizing development and recreation.
- Creating partnerships between foresters, local authorities and users (the community) to jointly manage 'forest life' (care and future plans).
- Emphasizing free and open access to the forest and its facilities.

Three community forests in central Israel were chosen to serve a pilot projects. One of these was Rosh Ha'Ayin Forest. In 2003, as preliminary master plan was developed by KKL, as well as a basic inventory (flora, archaeology), community mapping. The plan was presented to partners (local authorities, community representatives) in 2004. Next, a joint task force was set up and responsibilities

defined. The forest was 'introduced' to local inhabitants through excursions, media exposure and a joint venture with local ecological school. Public involvement was strengthened in 2005 through new plantings and opening a trail to an archaeological site, establishment of a 'Forest Friends' volunteer group, and inclusion of the forest on the municipal website. A major step was the signing of a 'forest convention' with the community in 2006. Moreover, a user survey was completed, open space mapping and the links with the city's green structure were discussed, and a plan for joint KKL-city forest management was created. Indicators for success of the pilot project have been improved forest care; greater partner awareness and commitment; and changes in the management approach used by local foresters.

The *second stage* consists of expanding the project to other community forests (6-7) in the country. This stage includes promoting the overall idea to foresters and district managers; selecting suitable forests in each part of the country with managers and foresters; and creating a professional base for foresters and managers.

An important element of the latter activity was a workshop on community forestry held during March 2006. The workshop was co-organized by KKL and woodSCAPE consult. It offered the about 40 KKL participants, representing managers, foresters, public relations experts, and landscape planners, an insight in the state-of-art of community forestry worldwide. Topics discussed included the community forestry concept, marketing of benefits, strategies and planning, woodland management, and communication and public involvement. Participants were asked to develop an initial 'action plan' for their own community forest.

Implementation of community forestry in Israel will have as goals in 2006:

1. Finalization of vision, goals and work plan for selected forests, promotion to partners and establishing joint work teams for each forest.
2. Creating an open data and information network within KKL.
3. Setting up periodic expert meetings.
4. Promoting the topic within KKL management and local heads of government in Israel.
5. National branding of community forests.

Key words

Community forests, Israel

Biography

Moshe Shaler is a community forestry director in Keren kayemeth Le'Israel (KKL), the Israeli forest service. He leads the community forestry process in KKL. Moshe graduated (B.Sc) from the Agriculture Faculty of the Hebrew University of Jerusalem. His professional background is in the field of nature preservation education as former manager of a field school.

Cecil Konijnendijk, with a PhD in forest policy and economics, has facilitated urban forestry networking and research in Europe and elsewhere for more than 10 years. He runs woodSCAPE consult, which provides services within science, communication, advice, policy and education to promote and develop the role of wooded landscapes in urban societies.

URBAN FORESTRY: FROM A MULTIFUNCTIONAL APPROACH TO A BRIDGING TOWARDS OTHER DISCIPLINES

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The term urban forestry (UF) has been recently analyzed by Konijendijk et al. (2006) who compared the diverse perspective of North America and Europe. The authors show how the meaning and the content of this applied science have evolved in different social, economics and cultural fields assuming multifunctional and multidisciplinary traits.

In this paper, starting from the sustainability paradigm, the authors take into consideration the tight connections and synergies existing between Urban Forestry and other disciplines, like landscape planning, landscape ecology, urban ecology, environmental psychology, urban sociology.

This analysis shows how the multifunctionality of the UF, though characterized by environmental aspects, is always more distinguished by social and psychological implications.

It has therefore to be underlined that, even if acceptable definitions of UF and related concepts can be provided, this discipline will endure, in the future, an evolution which will be strictly connected to the reference scenario.

In this particular evolution the community that interface with the territory and its natural resources will become the main subject of the new research projects. Thus, the urban forest will be seen as a centre of connections, not only ecological, but also social and cultural, as a place of participation where people can share and compare ideas and opinions and where we can find meeting points and mediation inside the present society (generation, ethical and social bridges) and with those which are materializing in our cities (ethnical and cultural bridges).

Key words

Urban forestry, social and cultural approach, participation

Key references

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Van Herzele A., De Clercq E. M., Wiedemann T., 2005. Strategic planning for new woodlands in the urban periphery: through the lens of social inclusiveness. *Urban Forestry & Urban Greening*, 3:177-188.

Biography

Francesco Ferrini is a full professor of Parks and Gardens at the Department of Horticulture of the University of Florence. At present he is involved in several projects regarding :

- Effect of water stress on growth performance of newly planted trees and its effect on some fungal species infection
- Use of different substrate to improve growth performances of some ornamental species.
- People-plant relationships. Aesthetic Plant and Landscape Perception.

Fabio Salbitano is associated Professor at the Department of Science and Technologies of the Forest Environment (DISTAF), University of Firenze. He is professor of Silviculture and Urban Forestry at the Faculty of Agriculture and at

the inter-faculty MSc in Landscaping. He has got a Degree in Forestry in Firenze and a Ph.D. in Forest Ecology, University of Padua.

The main Research Activities (author and co-author of 82 Scientific papers) related to Urban Forestry are: Ecological history and landscape dynamics in the Mediterranean region related to anthropogenic influences; Ancient woodlands facing new urbanization phenomena

- Participation processes in urban woodland planning, design and management (EU funded project NEIGHBOURWOODS); Perception, people involvement and attitudes in Multifunctional Urban Greening design and management in tropical and European cities.

He has been a delegate of COST Action E12 'Urban forests and trees' and part of the Management Committee of COST Action E39 'Forest, Human Health and Wellbeing'. Since 2001 he is part of EUFORIC, European Urban Forestry Research Information Centre. He is member of the Scientific Committee of the Journal "Urban Forestry and Urban Greening".

Giovanni Sanesi is Associate Professor of Urban Forest and Forest Planning at the University of Bari, Italy. His research has been related to many aspects of trees, forests and open spaces in urban and periurban landscapes. He is member of the Management Committee for the implementation of the European research action - COST Action E39: "Forests, trees and human health and wellbeing" (2004-2008). He has authored and co-authored peer-reviewed articles on sustainable planning and management of urban forests and integration between urban forestry and landscape ecology.

25 YEARS AND GROWING
AN URBAN FORESTRY NON-PROFIT LOOKS BACK AND AHEAD

Ellyn Shea

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Friends of the Urban Forest began in San Francisco in 1981 as a grassroots response to city cuts in urban forestry funding. At that time the science of urban forestry was only a couple of decades old. Over the past 25 years, the organization has evolved in many ways, paralleling the advances in the discipline as a whole.

What's happened since 1981? We have planted 40,000 trees in sidewalks and public spaces. We've learned what works and what doesn't, based on experience and survey data. With this collective wisdom we are now better able to advise others. We now start structural pruning and training early, visiting each tree we plant at least 3 times in the first 3 years. We have improved our "emergency" response system, creating a network of volunteers to "rescue" small fallen saplings in their neighborhoods. We have developed an award winning youth program. We have a field internship program for horticulture students at the college level. There are more horticulturists and certified arborists on staff, allowing us to better educate our volunteers and the community.

Thanks to advances in technology we can reach more people through email and our website, connect with our peers, and keep in touch with the latest research. We can use GIS programs to map our trees, and crunch numbers in our database to quantify our impact on the cityscape. Although we are still using slide projectors for our community presentations! (We do plan to upgrade to digital projectors soon.)

What hasn't changed? We're still grassroots. We still depend upon volunteer labor and community support to continue our mission. Neighborhood plantings are still put together by local organizers. These organizers knock on doors, give out flyers and go to association meetings to convince others to plant trees in front of their homes. Through neighborhood plantings and tree care workdays, neighbors meet each other, citizens discover a part of the city they never knew, and no one looks at trees the same way afterwards.

What do we see for the future? Our relationship with the city is changing, and city tree policy is also changing. We are exploring "fee for service" work to supplement dwindling city funding. We are expanding our view of urban forestry to include entire sidewalk gardens and ecosystems. We are committed to more work in underserved areas of the city.

To celebrate our 25th anniversary, we are undertaking a massive history project to connect our present to our past. We're collecting anecdotes and memorabilia from hundreds of former and current volunteers, board, staff and supporters. We

plan to display this historical collection at our 25th anniversary party in May and other locations. In addition to our May gala event, we are giving a couple of concert parties aimed at a younger demographic, to recruit tomorrow's volunteers and supporters. We are offering special educational events, and, of course, some special tree plantings and workdays, because our volunteers came to get dirty!

Key words

NGO, voluntary program

Key references

Philip van Wassenauer of Urban Forest Innovations Inc in Ontario, Canada wrote to the Urban Forests Ecosystem Institute listserv (www.ufe.org) in October 2005.

Eric Jorgenson coined the term in the early 60's when one of his graduate students, Bill Morsink, wanted to look at the management of trees in the human dominated areas around cities. Eric knew that to make the project fly with the administration at the University of Toronto, Faculty of Forestry, the project would have to have Forestry in the title. He thought for a bit and then said, "I know, we'll call it Urban Forestry!".

Biography

Ellyn Shea joined Friends of the Urban Forest in mid-1999 as a Planting Manager and became FUF's first full time Tree Care Coordinator in spring 2001. Her previous background was in office management and teaching. She began her career change in 1997 by volunteering at Strybing Arboretum and then working in landscaping, while attending City College Horticulture classes. Ellyn has been an ISA Certified Arborist since mid-2000. She has presented at the American Forests national conference and her articles have been published in *The Independent*, *Tree Care Industry*, and *Treescapes*.

AN URBAN NATURAL PRESERVE:
MANAGING A SITE OF COMMUNITY IMPORTANCE (SCI) IN AN URBANIZED
ENVIRONMENT

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The sites of Community importance (SCI) contribute to the maintenance and restoration of biological diversity and of natural habitat types and species according to Directive 92/43/EEC. In densely populated areas, such as north-eastern Italy, such sites are often surrounded by a strongly urbanized landscape. Their existence and preservation has to cope with pressure for new development or, at best, from recreational, and other social uses of open spaces. Moreover, the promotion of education is provided by the Directive 92/43/EEC itself (art. 22). For these reasons the management of such sites becomes an interesting urban forestry issue.

In this paper we wish to describe the methodological approach to the management and partial redesign of a portion of a coastal SCI, located in the urban centre of a resort town along the shore of Northern Adriatic Sea.

The site is quite small, approximately 2.5 ha, and belongs to the larger SCI IT3250033 "Laguna di Caorle", which includes a variety of coastal habitats and endangered species. It is separated by the main core of the SCI by a major road and completely surrounded by residential development. It is mainly occupied by a plantation of *Pinus nigra*, but includes some fragments of dunal and retro-dunal habitats, such as holm-oak (*Quercus ilex*) forest and the Mediterranean humid grassland (*Molinio-Holoschoenion*) [1] with the presence of endangered plant species. Considering both the location and the environmental value of the site four major management goals were set:

- the protection and enhancement of coastal habitats;
- the creation of an "urban natural preserve" with educational and recreational opportunities;
- the creation of an accessible urban open space;
- the creation of a botanical garden for teaching and research.

To achieve this goals a detailed study of the vegetation types and their spatial distribution on the site was carried out, resulting in a GIS based mapping of the

habitats. Design and management solutions were developed to re-establish and preserve endangered habitats. Specific facilities were designed to minimize the impact of recreational use on environmental conservation and maximize the educational opportunities. A management plan was proposed to guide and control the natural changes in the composition and structure of the existing woodlands.

Key words

Protected areas, coastal ecosystems, environmental conservation, environmental education, urban forestry, Nature 2000.

Key references

European Commission DG Environment, 2003. Interpretation Manual of European Union Habitats - EUR 25. European Commission DG Environment, Brussels, Belgium, 127 p.

Biography

Paolo Semenzato, Ms in Agricultural Sciences, University of Padova and MLA, University of California, Berkeley. He is Associate Professor in Urban Forestry, co-director of the program in Landscape Design and Management, and a faculty member for the PhD in Forest Ecology. His main research is on the planning and management of the urban vegetation and the environmental and social benefits of the urban forest. He is the author of about 65 papers and monographs. He is currently involved in COST action E39 and in the Le-Notre network (Landscape Education – New Opportunities for Teaching and Research in Europe).

Vinicio Carraro, Ms in Forest Science, University of Padova. Since 1996 University technician at the University of Padova, he collaborates on forest and vegetation ecology research projects, and is responsible for monitoring of micrometeorological factors and measuring ecophysiological parameters to investigate their relationships with the forest ecosystems.

He has been involved in landscape planning projects and is the editor of several proceedings books on ecological topics, author of some papers and of a monograph on local wetland vegetation.

Dina Cattaneo, MS in Forest Sciences 1983, University of Padova, on the evaluation of the carrying capacity in forest ecosystems using computer models.

In 1989 PhD in Forest Hydrology at the University of Padua on soil-water relationship in a experimental watershed of north-eastern Italy.

From 1990 to 2000 Researcher, and since 2000 Associate Professor in Environmental Planning in the Faculty of Agricultural Sciences, University of Padova. Her main researches are on the management of protected areas, environmental values in rural landscape and the biodiversity in forest ecosystems. She is author of about 60 papers.

Tommaso Sitzia holds an equivalent MS/BS degree in Forestry and Environmental Sciences and a PhD in Forest Ecology. He is a research fellow of Padova University and contract professor in "Assessment of plans and projects affecting Natura 2000 sites" and in "Exercises of Ecology" and was invited professor in several professional training courses. He works as a free consultant in forest management, vegetation mapping and environmental planning and assessment. He was editor of a proceedings book on ecological networks and author of about 15 papers.

URBAN NATURE –
PERCEPTION, ADOPTION AND EVALUATION OF URBAN NATURE BY TURKISH
MIGRANTS IN THE RUHR CONURBATION UNDER SPECIAL CONSIDERATION OF
URBAN-INDUSTRIAL WOODLANDS

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The research project aimed for information about the perception, adoption and evaluation of urban nature by Turkish Migrants in the Ruhr conurbation. The key focus was on the urban-industrial woodlands. These wild and spontaneous arising forests on former brownfield sites can offer new recreational areas for urban residents to experience nature and to run leisure activities. The motive for the analysis was the fact, that in the immediate vicinity of these urban-industrial woodlands many Turkish migrants live but there is only marginally knowledge about the perception of nature and especially of forests by this social group. In this regard this project is the first case study to analyse the perception and evaluation of urban nature by Turkish Migrants in Germany (Güleş et al. 2005). One essential result of the study is that the Turkish Migrants have a rather negative perception and evaluation of urban nature in general and in the districts of research. Central reasons for this negative connotation are based on the high-density of the residential areas, and therefore, the deficit of free spaces, and a high traffic load. The potentials of urban-industrial woodlands as new free spaces for nature and humans closely to the residential areas are hardly known by the Turkish Migrants. On the other hand the resident and expert surveys as well as the workshops demonstrate their interest to take part active and creative in the further development of the urban-industrial woodlands. The urban-industrial woodlands represent an important opportunity to encourage the wellbeing of residents in burdened urban districts. They can offer novel forms of nature experience for urban residents in the sense of new “playgrounds”, if they would be opened as new spaces for an active adoption by the urban residents. By this they could experience the nature in a self-determined way. This active adoption of the urban-industrial woodlands could advance the self-esteem of the district residents. Therefore, the woodlands could become not only places for new nature experiences but also places with integrative and social functions. On the basis of this research results the team has developed three types of potential project modules to assist the residents with the self-determined adoption of urban-industrial woodlands: 1. Forest of cultures, 2. Forest of generations, 3.

Community forest. These modules should ensure that all relevant social groups (age, gender, ethnic roots etc.) are included in this active experience of urban woodlands.

Key words

Urban-Industrial Woodlands, Turkish migrants, Ruhr conurbation, experience of naturekey

Key references

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Keil A., 2002. Industriebrachen – innerstädtische Freiräume für die Bevölkerung. Mikrogeographische Studien zur Ermittlung der Nutzung und Wahrnehmung der neuen Industrienatur in der Emscherregion (Studies on the Evaluation of Using and Perception of the new Industrial Nature in the Emscher Area). Dortmund: Dortmunder Vertrieb für Bau- und Planungsliteratur.

Keil A., 2005. Use and Perception of Post-Industrial Urban Landscapes in the Ruhr. In: Kowarik, I./Körner, S. (eds.): Wild Urban Woodlands. New Perspectives for Urban Forestry. Berlin: Springer, S. 117-130.

Biography

Dr. Andreas Keil was born 1970 in Dinslaken, Germany. He has studied geography and German language and literature on the Gerhard-Mercator-University in Duisburg. In 2000 he finished his PhD thesis with the title: “Brownfield Sites – inner-city Free Spaces for the Population. Micro-Geographical Studies on the Evaluation of Using and Perception of the new Industrial Nature in the Emscher Area”. Since 2001 he is lecturer on the Dortmund University in the Institute of Geography and Didactics of Geography. His main research fields are i.e. (New) Urban Governance and the perception, adoption and evaluation of industrial forests by the city residents.

Orhan Güleş was born 1976 in Wesel, Germany. He has studied geography, environmental psychology and political science on the Ruhr-University Bochum. Since 2003 he works on his PhD thesis with the working title: “Placemaking of Turkish Migrants in the Ruhr Area in the Context of Local Governance”. From October 2004 till December 2005 he was scientific assistant in the displayed project. His main research fields are i.e. political processes in urban areas, (New) Urban Governance and the perception, adoption and evaluation of urban nature.

A LANDSCAPE LABORATORY IN GERMANY
REACHING OUT FOR NEW LANDSCAPE CONCEPTS

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The concept of landscape laboratories was developed by Prof. Roland Gustavsson from SLU Sweden in 1990. The main idea behind this concept is to create a platform where scientists and practitioners with different professional backgrounds can meet and collaborate on the development and test of new concepts for design, establishment and management of urban forests and green. By testing innovative ideas in full scale, landscape laboratories also serve the education of students, young managers and forest owners within the area by inspiring them to be creative in their management approach; 'dare to be different'.

Thirdly, landscape laboratories have an important social function: they are not only meeting points for professionals and 'experts', but also and maybe most important they are part of the public green resource where people enjoy their time and experience and learn about the importance of nature close to urban settlements.

Germany's "Ruhr" area has been Europe's 'heart of industrialisation' and urban agglomeration for over more than 100 years.

Since the end of industrialisation (in the late 20th century) it has undergone major structural changes, as many industries have moved away. As a consequence, large amounts of post-industrial land sites, including many brown field sites, have become 'non-functional'.

Some of this land is still 'unused' and cannot be integrated into the context of urban (housing) development for various reasons. The Ministry for the Environment in 'Nordrhein-Westfalen', Germany, has started to re-use many of these land sites for various different concepts in urban forestry and urban agriculture (e.g. 'industrial forests') that may aid in creating a more sustainable and functional future landscape. Some of these landscape models combine commercial production with recreational use, as well as providing educational facilities. Furthermore, artists are given the opportunity to express the strong connection of the area's history with art and nature.

Biomass production for energy purposes has become an important alternative worldwide to replace fossil fuels in the future. Energy forests have been commercially used for several years in Scandinavian countries, such as Sweden and Finland, with tree species like *Salix* spp. and *Populus* spp. In Germany, extensive research into renewable energy production has resulted in the commercial use of renewable energy in many fields. However, the concept of 'energy forests', for example as short-rotation crops and alley-cropping systems, has only been addressed to a limited degree at this point in time. However, it will

become more important over time to meet future energy demands in many countries.

A landscape laboratory could be a considerable gain for Germany's new post-industrial landscapes.

By integrating commercial biomass production into its design and linking it with recreational aspects, establishment and management of a landscape laboratory could develop into a scientific as well as practical standard of reference for transformation of post-industrial landscapes elsewhere.

Based on assessment of scientific and contextural profile of three existing landscape laboratories in Sweden and Denmark, this paper presents a feasibility study for a landscape laboratory with focus on biomass production linked with recreational use in Germany's "Ruhr" area.. Focusing on the trade-offs between scientific versus local needs and demands, analyses were conducted whether the concept of a landscape laboratory will be transferable to the heavily post-industrial and urbanised context of the "Ruhr" area.

Key words

Landscape laboratory, new landscape concepts, creative management, industrialised 'wasteland', urban forests, post-industrial landscapes

Key references

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Gustavsson R., Professor in Landscape Design (personal conversation)

Busse Nielsen A., PhD student (personal conversation)

Späth R., Ministry for the Environment, Nordrhein-Westphalia, Germany (personal conversation)

Various stakeholders from the "Ruhr" area (interviews)

Biography

Astrid Hamm is a Consulting Arborist and Landscape Consultant (B.Sc. Urban Horticulture, University of Technology, Sydney, Australia). Currently she is taking part in the new International Master's programme in Urban Forestry & Urban Greening at NOVA University in Scandinavia (Denmark/Sweden). She has worked as a private consultant, and for local municipalities in Sydney and Melbourne, Australia, for 8 years and has returned to live and work in Germany in 2004. Her professional and research interests have been focusing on urban tree management and urban forestry.

EVALUATION OF GREEN URBAN AREAS: SOME STUDY CASES IN FLORENCE

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According to a multifunctionality perspective, green urban areas increasingly play an important role in the improvement of human quality life. The correct management of such areas needs an in-depth analysis of the resource's economic aspects. Therefore the economic value assessment of commodities and non-commodities related to green urban areas is one of the strategic information which is able to influence planning choices according to a sustainable and multifunctional process. The present article focuses on eight different types of urban parks located in Florence in order to define their Total Economic Value (VET) and, in the same time, to underline some guidelines for assessment of these areas. As a matter of fact, through the linkage of the Contingent Valuation Method and the Visual Preference Method, questionnaires have been prepared and suggested to park's users. Total Economic Value has been achieved by the elaboration of elicited data. Besides, another significant goal had been obtained by the attendances' count in the different examined areas: the individuation of the yearly average users number, which provides how the necessity of spending time in green urban spaces is noticed by people.

Key words

Urban green area, total economic value, multifunctionality of green areas.

Key references

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Biography

Francesco Riccioli, PhD, Student, graduated in Forestry in 2001 in University of Florence. He worked in landscape's field with a degree in "Landscape in the Environmental Impact Assessment". He is working with DEART in field of Social-economics development of rural areas in Tuscany Region.

Gabriele Scozzafava. PhD student, graduated in Forestry in 2004 at the University of Florence 110/110 cum laude.

Areas of interest: rural development, Geographic Information System (GIS) application, rural and environmental policy.

AN OXYMORON?:
THE CANADIAN ORIGINS OF THE TERM "URBAN FOREST"

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This paper is part of a larger project studying the social and cultural history of the urban forest in North America through a case study of Ottawa, Ontario. The project examines street trees, park trees, and city woodlands, and shows how attitudes to city trees shifted over time. This paper explores the Canadian origins of the term "urban forest."

Interviews suggest that the term "urban forest" was first used officially by Erik Jorgensen, a member of the faculty of the Forestry School at the University of Toronto in 1965, in order to create a graduate program for a student interested in forest pathology in city trees. The following year Willem Morsinck became the first student in a newly defined subdiscipline Urban Forestry. In 1969 the Faculty of Forestry offered the first undergraduate course in Urban Forestry.

Marshall McLuhan, communications theorist and Jorgensen's colleague, quipped that it was an oxymoron, and so bound to catch on. It was quickly adopted by the United States Department of Agriculture Forest Service, refined by Jorgensen and is now used internationally. This paper will situate the creation of this terminology in the historical context of 1960's, with the growth of environmental movements, particularly the popular concept of ecology, youth culture and urban reform. It will explore the shift in perceptions of city trees that is represented by the move from widely used North American term "street trees" to the term "urban forest."

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Key words

Urban Forest, Canada, landscape, history, environmentalism

Biography

Joanna Dean is an assistant professor of History at Carleton University in Canada, and was previously chair of the City of Ottawa Urban Forest Advisory Committee. She is currently writing a history of the urban forest in Ottawa, Ontario, a project which uses Ottawa, Canada's capital as a case study to examine shifting attitudes toward nature in the North American city.

EVALUATION OF EFFICIENCY OF PUBLIC SPENDING FOR MANAGEMENT OF GREEN URBAN AREAS.

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Green spaces are often intended to support urban populations' quality of life, they have to be considered in connection with the places where people live and in a way that reflects their point of view. The most important aspect to consider is "functional level", intended as green space inside and outside the city that are not substitutes for each other and both are perceived in different ways. Urban greening should be evaluated in relation to the relevant functional scales, ranging from street to city level.

An important problem is the restricted economic situation of urban administrations. There is less money for an increased number of management objectives due to more intense use of urban forests, parks or green spaces in general. (Moll et al., 1995; Ware, 1994). The employment rate in the sector of public green services is difficult to maintain at levels of previous prosperous times. There is a lack of continuity in the economic chain, as the costs are calculated on a short-term basis, whereas the benefits become evident in the long run (Nowak, 1993). The decline in environmental quality in all residential areas due to the loss of greenspace, and specifically trees, leads to questions as regards the efficiency of greenspace policies. More attention needs to be paid to greenspace planning and management. In particular there is a need to control more carefully the process of infill densification in the more affluent residential areas with bigger gardens. Economic cuts are an obtrusive threat to green areas. The park administrations, which are responsible for a large part of the city's green areas, have been hit hard in recent years by cuts in appropriations and personnel. In Italy the maintenance and the management of the greens area has carried out by local authority and for the other part by private companies. Instead in France, England and in many other countries the greater part of the job has done by the public authority because normally is more efficient and more professional in comparison with private companies.

The functional classification of green areas constitutes the first indispensable step for a planning and for a better use of green areas. It's important to obtain such aim through a detailed description of all green spaces, their characteristics and space development. Moreover, it is necessary to know the agronomic requirements, the pathological emergencies of this green patrimony. Finally, it is

important to determine the costs and benefits of technical interventions. Normally the costs of maintaining are readily calculated and conspicuous. But the benefits provide are spread over many areas, making them hard to quantify and easy to overlook. Therefore it would be necessary to realize a data- base that documents public green areas, playgrounds and tree stocks.

This paper presents several cases where we analyse the economic and financial aspects of the maintenance operations and management of the inquired areas.

Key words

Economic and financial aspects of green areas

Key references

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Biography

Enrico Marone is Professor of agricultural economics at the University of Florence. He went on to obtain his PhD in Economy from the University of Florence in 1994. Enrico Marone started his academic career in 1996 at the University of Florence, teaching Forest Economics. His current research focuses on the social and economic implications of urban forestry. Has participated at different researches concerning urban forestry and forest management.

Membership to Scientific Associations: Italian Society of Agricultural Economics, Sidea (1994); Centre of Studies of Territorial Assessment and Economics, Ceset (1996).

Dr. Roberto Fratini is researcher in Forestry Economics and wood market economy at the University of Florence. Has participated at different researches concerning: EU project, "Life-Environment" an European Project "GIS-based planning tool for greenhouse gases emission reduction through biomass exploitation for the years 2001 – 2003 and economic effects of urban forest. Membership to Scientific Associations: Italian Society of Agricultural Economics, Sidea (1994); Centre of Studies of Territorial Assessment and Economics, Ceset (2001).

Actually is teaching Forestry Planning (Module of economy) for Forestry students at the faculty of agricultural of Florence.

GREEN INFRASTRUCTURE AND THE SUSTAINABLE CITY
A DECISION SUPPORT GUIDE FOR PLANNING GREEN INFRASTRUCTURE

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Green Infrastructure is a term that is increasingly widespread in use. Understanding of the term, and an appreciation of why it is significant, is less widespread. The purpose of this paper is to provide an overview of green infrastructure, what it means, what it is comprised of, why it is significant and how the benefits associated with green infrastructure can be realised through effective planning.

There are a number of different definitions of green infrastructure (for example, Benedict and McMahon, 2002; TEP, 2005) but they share some common characteristics:

- Physically, green infrastructure is a network of interconnected green spaces;
- The definition of 'green' spaces is relatively flexible, embracing for example parks, gardens, woodland, and waterbodies;
- Linear features and routes such as footpaths, streams and rivers, cycle routes, roadside verges and linear woodlands are important as features in their own right and as connecting elements in the network;
- The benefits of a high quality green infrastructure network are diverse, encompassing human benefits, ecological values and functions, aesthetic gains and an enhanced quality of place, which in turn has links to economic viability and quality of life.

There is extensive evidence in favor of promoting green infrastructure as a network that supports the attainment of multiple objectives. During stakeholder meetings as part of a project on green infrastructure planning a wide range of 'components' of green infrastructure were identified. It is notable that these can be classified as existing at and having significance at different functional and geographical scales: Micro / Local Scale; Intermediate / Sub-regional Scale; Strategic / Regional to National Scale.

What is required is a consistent approach to the baseline assessment of the 'functionality' of existing green infrastructure and forward planning for the enhancement, development and creation of green infrastructure in the future. In such forward planning multifunctionality is key, and the assessment and evaluation of different planning options or scenarios must be supported.

A decision support guide has been produced for green infrastructure planning at the City Region and Local Municipality level that enables planners and other professionals to produce Green Infrastructure Plans. This paper will outline how the Decision support guide has been devised and show how it can be used in practice using examples from the North East region of England.

Key word

Green infrastructure, effective planning, trees and woodlands, decision support guide

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Biography

Clive Davies is a Geographer by background and has spent the last 23 years working in managerial roles within the environmental sector. He is currently Chief Executive of North East Community Forests, a regional body that promotes urban and community forestry. Clive has been involved with EFUF since its inception and given papers at previous Forum meetings.

Robert MacFarlane is Director of the Centre for Environmental and Spatial Analysis at Northumbria University. From his PhD (1994) his environmental research has focused on landscape planning and management with a specific interest in how policy and planning translates into land-use and landscape change. Other ongoing projects relate to tranquility mapping, renewable energy planning and experiential aspects of landscape in relation green infrastructure

Maggie Roe is Head of the Landscape Research Group at Newcastle University. Her main research interests lie in the field of large scale landscape planning and design; landscape ecology; sustainable landscapes; coastal landscape planning and human perception of, experience and relationship with the landscape. Her specific focus is on community participation and landscape sustainability. Maggie is editor of the forthcoming second edition of *Landscape & Sustainability* (1st Edition Ed Benson & Roe, Spon, 2000). Maggie is Deputy Editor of the peer reviewed journal 'Landscape Research' and has recently been developing research in the area of 'new' cultural landscapes – i.e. what this means and how these might be created.

BUILDING BRIDGES, USE IN A GEOGRAPHICAL APPROACH

Julien Dellier

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The theme of the 9th European Forum on Urban Forestry has a significant resonance on our work. As a Geographer, building bridges between cities and also inside cities is a real necessity. Our thesis topic refers to the spatio-temporal integration of the forest within the cities. In my point of view, "building bridges" is more than a concept and has become a multifaceted method.

Between cities, it seems interesting today to compare various regional situations. Drawing the most important dynamics at work and defining the weight of regional specificities according to the environmental and social variables is one of our main goals. With this aim, we will try to study various cities according to precise criterion, including topographic, environmental and social aspects.

Inside cities, we confront a space-time analysis, realized with a GIS, with concrete local surveys, thus laying the basis of a multidisciplinary approach. Here, the goal is not only to materialize the physical links existing between city and forest but also to highlight the non-material ones created by and for the urban population.

The first results clearly show that global issues are the same everywhere, in plain or mountain, in wooded regions or not very wooded ones. On the other hand, the means to achieve those goals seems to vary greatly with the regional data. This is easily understandable, since the priority may range from creation of wooded spaces to the management of the existing ones, or even their improvement or normalization for the use of city-dwellers. The search of a better quality of life by improvement of the environmental condition is the major stake. Inside cities, the most significant fact is the need of a good communication from the foresters oriented towards the public and local decision-makers. The goal is to promote the forest in its "natural" dimension and not as another artificial park-like urban green space. The current development of green infrastructures is a chance to place the forest at the core of the cities' breathing.

Key words

Average cities, green infrastructure, space-time study.

Biography

Julien Dellier is a PhD student in Geography. He is a member of GEOLAB, a French research laboratory with CNRS label. His research concern is the relationship between urban development and green space, especially forest, in the "average" European city. He has an interest in geographical modelisation. With this aim, he is working on some examples across Europe: Grenoble (Fr), Limoges (Fr), and Swindon (GB).

ARE OPEN FIRES ALLOWED HERE?

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Statistical investigations show immigrants visit the country-side less often than ethnical Swedes. They also have less knowledge about nature in Sweden. There are around 10 % inhabitants in Sweden, i.e. there is of great political interest immigrants getting knowledge about the valuables of the Swedish nature. New Swedes have been a priority target group for the National Board of Forestry.

Last year I met with adult students within SFI (Swedish for Immigrants). I have met both immigrants being afraid of the woods, animals or mines and immigrants who love being outside, who like Swedish nature, taking walks and getting together outside. Still, many immigrants are uncertain how to behave and where to go.

In Sweden, it is of growing interest working with immigrants. My experience is you have to bear in mind immigrants are a very heterogeneous group. They come from different countries, cultures, religions and educational background, and they are accustomed to live in big cities or different types of nature. It is essential to work in co-operation with the immigrants to get their attention.

Nature is one important way of working with integration in the exhibition Are open fires allowed here? It tells in easy Swedish about the right of public access, the benefit to be out in the country-side in Sweden. The exhibition gives examples on what to do and discover and tells about the consideration necessary. Quotations taken from interviews with different kind of people about their relation to nature show there are cultural differences, but many of us enjoy nature in a similar way.

Along with the exhibition there are arranged activities building on local participation and co-operation between organizations with different cultures.

The exhibition, Are open fires allowed here? is produced by Anna Hadders at the Regional museum in Kristianstad. It is supported by the Environmental Protection Agency and The Swedish Museum of Natural History.

Key words

Immigrants, nature, exhibition

Biography

Last year I started working at the National Board of Forestry concerning Urban Forestry. I have never had as fun job as this before. I have always been interested in nature, humans, history, society and health issues. I studied biology and geology at Stockholm's University along with history of ideas and history of literature. In my work I feel I can bring all this together. This spring I have been working as project manager for the exhibition Are open fires allowed here? in the municipality of Södertälje. Before I have been working at the Environmental Protection Agency and WWF in Sweden.

THE MANAGEMENT OF GREEN AREAS IN THE URBAN ENVIRONMENT

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In the simple meaning of green areas nature is expected to carry out many functions in an urban context, which are useful to explain the descriptive characters needed for the analysis and comprehension of specific phenomena.

Beside being a significant component of the urban scene, vegetation is also one of the most appreciated: generally speaking, vegetation is synonym of quality.

The structural pattern of green areas, which apparently occupies uneven spaces among buildings, regulates in fact the planning order of the fabric of the city, as an organic system, in which its matrix organizes and shows the social mechanisms of the city itself.

Starting from a general scheme, the research has to discover the criteria which determined the structure of the environmental and "naturalistic" scene of a specific site, considering the various elements which can illustrate the cognitive context of the territory itself.

Aimed operations of survey and green areas census are essential instruments for the preservation of the naturalistic heritage, if developed through a critical reading which considers the features of the areas, not only as physical sites but as structures articulated by the categories of space and character, and never separated from the sequence of environmental systems which define them.

The comprehension of the site characteristics and the trends of certain phenomena thus becomes crucial to supervise and control the territorial development respecting its qualities with an efficient filing system.

The survey then becomes an indispensable instrument for knowledge which is not limited to the analysis of a specific situation but should lead to the understanding of possible associations and connections. Due to these complex relationships the research cannot be limited to a single professional, but needs to integrate different professionals: landscape surveyors, botanists and specialists on plant protection as entomologists and pathologists.

Therefore a system of analysis was experimented, from a general perspective to a detailed one, considering all the intermediate degrees. Through the studies of the relationships between the different steps, the connections between the scale of human perception and the scale of territorial management may be understood.

Key words

Green area survey, management, filing system

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Biography

Sandro Parrinello was born in Florence on May 5th 1981 and graduated in Architecture in 2005.

Since 2000 he has been a qualified expert on the subject of Architectural Drawing and Survey at the Architectural Planning Department and he is currently collaborating with Prof. Arch. Bertocci.

In 2005 he was Professor of Architectural Drawing and Survey at the University of the East in Santiago de Cuba in an interuniversity project in order to train technical workers for the Architectural and Environmental Survey. He took part to many national and international conferences in Italy as well as in foreign countries.

Stefano Bertocci was born in Florence on April 29th 1957. After completing his education in his native city, he remained in Florence where he graduated in Architecture in 1984

He took part in the Italian architectural survey projects at Petra, Jordan, and has also conducted the field trips of the Archaeology Specialisation. He directed the project 'The Architectural Survey of the Perimeter Walls at Iasos in Caria, (Turkey)' and the project 'Filing the Old Town Centre of Montepulciano'.

He is a qualified associate professor, at Florence University, in the Architectural Planning Department and teaches Architectural Survey.

Angela Niccoli was born on February 8th 1948. She obtained her university degree in Biological Sciences in 1971 at the University of Florence.

From 1972 to 1976 she had a Research Scholarship at the Experimental Institute of Agrarian Zoology of Florence.

Since 1976 she has been a Researcher at the Experimental Institute of Agrarian Zoology of Florence and since 1988 First Researcher

Since 2006 she has been co-professor for the Course on Urban Entomology which is part of the Degree Program in Phytosanitary Science and Technology.

Riziero Tiberi was born in Gavignano (RM) on November 22nd 1948. He obtained his university degree in Agricultural Science in 1974 at the University of Florence.

From 1976 to 1986 he was a researcher at the Experimental Institute of Agrarian Zoology in Florence.

From 1987 to 1999 he was an Associate Professor of Forestry, Venatic and Aquacultural Zoology at the University of Florence.

Since 2000 he has been Full Professor of Forest Entomology at the Department of Agrarian Biotechnology - University of Florence.

FALKIRK URBAN WOODLAND STRATEGY
A CASE STUDY

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Falkirk is a medium sized town in Scotland lying equidistance from Edinburgh and Glasgow. Falkirk is the administrative centre for a district which takes in the towns of Grangemouth, Denny and a number of urban villages which together have a combined population of 149, 150.

The area is characterized by new development, derelict and brownfield sites, housing, retail and industrial parks, intermixed with farmland and woods. Woodland management is affected by

- Fragmented ownership and land management
- Limited economic value of timber
- Conflicting land use
- Vandalism, fly tipping, arson and illegal vehicular use
- Land in semi-derelict condition awaiting rehabilitation or development.

The lack of strategic guidance to encourage the management of urban woodlands is a weakness. However this, coupled with opportunities for concerted partnership working, provided the justification for the preparation of the Strategy. The development of the Strategy promotes the area as one where woodlands are appreciated, protected, managed and maintained for the local community where the:

- quality of life will be enhanced by access to local woodlands
- image of the area will be enhanced as a place to live, work and visit
- area will be enhanced as a business location.

The starting point for the Strategy was to understand the nature of the woodland resource. To achieve this all woodlands within 1km of the urban edge were audited with the results recorded using ArcView GIS and summarized below.

Total woodland area 1500 ha	Percentage of overall study area 9%
Publicly owned Woods 25% by area	Privately owned woods 75% by area
Woodlands with some community participation- 8 representing 22% by area	Woodlands with no community participation – 252 representing 78% by area
Managed woodlands 45% by area	Unmanaged woodland 55% by area
Broadleaved woodland 58% by area	Coniferous woodland 42% by area

The woodlands offer enormous potential to unlock the objectives of a range of mutually compatible agendas. These agendas were addressed through 7 key objectives:

1. Woodlands accessible and close to where people live – towards social inclusion, a community resource
2. Woodlands as a gateway to the area – improving the landscape setting and image
3. Woodlands as a health centre – a resource for physical activity
4. Woodlands as a classroom – a forest education initiative
5. Woodlands as a nature reserve – key biodiversity sites
6. Woodlands brought back into management – to coordinate partnership effort and develop timber markets
7. Woodland profile and resources – increase the availability of information and resources.

Delivery of the Strategy is ongoing, involving a number of public and private organizations. 10 priority sites have been identified based on the potential for delivery of the key objectives. Management plans for these sites have been drawn up in consultation with local people with delivery funded through the Forestry Commission's Woodlands In and Around Town Initiative.

Future work includes the preparation and delivery of further management plans, developing links between woodlands and schools and the investigation of the use of timber as a source of wood fuel.

Key words

Woodland strategy, land management, partnership working community engagement.

Biography

Guy Wedderburn is a Director of Chartered Surveyors, Bell Ingram. He has worked in both urban and rural environments for over 20 years as a land use consultant dealing with farm and woodland management and the development of public access. Much of his work involves community engagement and participation. He is a woodland manager in the Falkirk area and a key contributor to development and delivery of Falkirk's Urban Woodland Strategy. He is a former Member of the Board of Scottish Natural Heritage and a Member of the Scottish Forestry Forum.

Richard Broadley is qualified town planner and is the Environment Co-ordinator for Falkirk Council with overall responsibility for both the built and natural heritage. He played a key roll as principal author of Falkirk's Urban Woodland Strategy. In his previous as Outdoor Access Officer with Falkirk Council he was responsible for developing and implementing the Councils outdoor access strategy

much of which concentrates on no vehicular access links between urban areas and the wider countryside.

Ian Edwards is a qualified forester and landscape architect and has a wide range of experience in contracting, local authority work and private practice. He has worked with Falkirk Council as a Landscape Officer in the Planning and Environment Unit, where the duties include; environmental improvement works, contract management and dealing with many of the issues that relate to trees, woodlands, development control and policy planning.

OZONE UPTAKE BY URBAN FORESTS: THE CASE OF QUERCUS ILEX AND POPULUS SPP.

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Ozone is one of the most dangerous products in polluted urban areas and its atmospheric concentration increased over the last decades. Modelers predict an ozone increase of 50% by the year 2100 (Fowler et al. 1999). The ozone concentration in the low troposphere is today a risk for many forest ecosystems. Trees, in particular in urban areas, are able to capture ozone from the air (Altimir et al. 2004). High ozone has negative effects on plants growth, involving acceleration of leaf senescence, chlorophyll degradation, alteration in N metabolism, reduction in CO₂ assimilation and consequently of productivity, probably also because of the associated stomatal closure (Zheng et al. 2002). Stomatal closure is a crucial parameter since it may influence both the stomatal uptake and the ozone phytotoxicity. We have investigated if ozone uptake is associated to stomatal conductance in *Quercus ilex* and *Populus* spp. The first species is one of the most important trees in urban forestry, especially in the Mediterranean area, the second is very used in short rotation forestry. We also studied BVOCs (Biogenic Volatile Organic Compounds) emission from these plants during ozone fumigation. BVOC emission, in turn generating tropospheric ozone in association with anthropogenic NO_x, was found to increase under oxidative stress condition (Loreto et al. 2004). Leaves or plants enclosed in cuvettes of different sizes were fumigated with synthetic air containing an ozone concentration of 100 ppb. The ozone uptake was calculated by measuring the difference between the ozone concentration in the air entering and leaving the cuvette. Plants were exposed to three temperatures (25 – 30 – 35 °C) and to variable light intensities (from 0 to 1000 μmol photons m⁻² s⁻¹) to induce different stomatal opening, ozone uptake, and emission of BVOCs. The results show that in both plant species the ozone uptake is directly proportional to the stomatal opening, ranging from around 8% (*Quercus ilex*) to 40 % (*Populus nigra*) of the ozone concentration in air. The low ozone uptake of *Quercus ilex* may explain the resistance of this plant species to ozone stress. When stomata are closed (such as in darkened leaves) the uptake is minimal. The relationship between ozone uptake and stomatal conductance in *Quercus ilex* is logarithmic as stomatal opening is associated to less and less relevant increments of the uptake. The relation for *Populus alba* is exponential, suggesting that ozone is removed very rapidly in the intercellular spaces. In all species ozone stimulates by about 20% the emission of BVOCs.

Key words

Ozone Uptake, *Quercus ilex*, *Populus* spp., BVOCs, stomatal conductance.

Key references

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Biography

Silvano Fares is a Ph.D. student in Forest Ecology of the University of Tuscia (Viterbo), associated to CNR-Istituto di Biologia Agroambientale e Forestale whose thesis deals with ozone uptake by vegetation

Francesco Loreto is a senior researcher at CNR - Istituto di Biologia Agroambientale e Forestale working on the interactions between biosphere and atmosphere and specifically studying the exchange of volatile organic compounds.

UTILITY TREE PRUNING AND WHAT PEOPLE THINK ABOUT IT:
RESULTS OF A STUDY IN THE WESTERN UNITED STATES

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Directional pruning is a tree care practice that is a valuable alternative to topping, especially for maintaining electric utility line clearance. Many (perhaps most) electric utilities in the United States converted to directional pruning from topping in the last decade or two for keeping overhead utility lines clear. In directional pruning, sometimes called natural pruning, branches that grow toward an overhead utility line are removed, while those that head away from the lines are allowed to remain. Branches are removed without leaving stubs and without flush cuts, and are always removed at a healthy, vigorous dominant or co-dominant branch or trunk, so healing will be encouraged and sprouting minimized. Topping, on the other hand, refers to the indiscriminate pruning back of branches to stubs, usually over most of the crown, to achieve line clearance. Advantages of directional pruning over topping include the need to remove less material, reduced sprouting, slower regrowth, and healthier, less hazardous trees.

Directional pruning poses some esthetic challenges, however. Pruning portions of the crown that head toward overhead lines while leaving the rest alone, leads to V- or L-shaped crowns when viewed in line with the utility, and may even result in one-sided crowns. My observations over the last 20 years have led me to believe that many (perhaps most) people do not like the esthetics of directional pruning, especially the more extreme instances, and some even seem convinced that it is bad for the tree. Such people prefer that the tree not be pruned at all, or if it has to be pruned, many seem to prefer topping. Directional pruning in the face of such resistance can lead to bad feelings and distrust of the utility, and to large-scale resistance at a community level.

Education about the benefits and biology of directional pruning – such as how it keeps lines clear and trees healthy – may help reduce resistance to the practice and improve utility/citizen relations. This presentation gives an overview of what directional pruning is and how it is done, then describes the results of a study of knowledge and attitudes about utility pruning in six western U.S. cities and the effects of education on those attitudes. This study showed that a simple educational brochure can increase the public's trust and perceptions of the professionalism of the people doing the pruning, and may increase directional pruning's acceptance. It also describes people's general knowledge about and views on directional pruning versus topping, and it confirms that indeed people do not like the look of directional pruning, and in fact, prefer the look of topping. Again, education can help. Attendees will gain an awareness of the U.S. public's

knowledge of and attitudes about utility line clearance issues, as well as suggestions about ways to affect that knowledge and those attitudes.

Key words

Utility pruning, directional pruning, topping, utility arboriculture, education, tree health, public attitudes, public awareness, Western United States

Key references

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Biography

Dr. Kuhns' received his B.S. in Forestry in 1977 and M.S. in Forest Ecology in 1980 from the University of Missouri, and his Ph.D. from Auburn University in 1986, specializing in tree stress physiology. From January, 1986 to April, 1992 he was Assistant Professor and Extension Forester for the University of Nebraska. Since May, 1992 he has been the Extension Forester at Utah State University and now holds the rank of Professor. His programming in extension involves urban and community forestry, trees and forestry in the wildland-urban interface, and rural/conservation forestry. He also conducts research on urban tree culture, urban forestry, and non-industrial private forest landowners' practices and motivations.

**BUILDING BRIDGES BETWEEN NATURE MANAGEMENT
AND HEALTH CARE STUDIES**

Development of a professional study programme for health care and nature management students which studies the effects of nature on human well being.

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On the issue of the relation between Health and Nature (experience) a lot of new research is being done at the moment. In recent years the issue became more important. In industrialised countries the lack of nature-values was evidently not beneficial to the health of many inhabitants of (bigger) cities nor to the social structure in general. In the recent Cost conference in Thessalonica, many of the key-note speakers were convinced that there is a growing need of nature-space /activities in nature in order to create or maintain a healthy environment. In designing and developing towns, new neighbourhoods, hospitals, schools, urban space, landscapes etc the integrated knowledge of both worlds (health and nature) is very important to react and respond to this growing need.

If we want to change policies and ways of looking at the environment, then we need people with this integrated knowledge in the right places. This process starts with a good educational program on the subject of "Nature, health and recreation". It's a new terrain, a lot of the new knowledge has to be still developed. At the same time numerous activities are already going on in the Netherlands which can be monitored by students. Creativity, multidisciplinary approach, integrated knowledge, communication skills...all competences, necessary to start a different way of thinking, more focused on the benefits of a green environment.

In this presentation I want to elaborate on the process that leads to a new, competence driven program in our professional university and also want to show some activities which are recently been developed in the Netherlands.

The course curriculum is developed by the Forestry and Nature Management department and the Garden and Landscape Architecture Department of Van Hall-Larenstein and the Sport, Health and Management Department of the HAN University. By integrating the knowledge of these institutes a unique programme could be developed that attracts students from nature management courses and students from health studies.

The program is competence-driven, consists of 3 month of desk research, field research and developing an assignment for the last three months. Health students, Urban Forestry students and Landscape Architecture students will work together in multidisciplinary teams on assignments within a company/organisation/institution that deals with (an aspect of) Nature and/or

Health such as a bureau for Landscaping, the ministry of Health, an entrepreneur in Recreation.

Besides the study programme in Nature, Health and Recreation Van Hall-Larenstein also offers a study programme in Urban Forestry which focuses on Urban Forest and Urban Greening. There will be a close relation between both study programmes.

Key words

Human health and well being, Forestry and Nature management, educational program

Key references

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Biography

John Riggers is co-ordinator of the major programme Urban Forestry and the major programme International Timber Trade. Both programmes are integrated within a four year bachelor programme in forest and nature management at the Larenstein University of Professional Education

He is involved in the development of a minor in Nature, Human Health and Recreation and a minor in Urban Forestry and Urban Greening. He is senior lecturer in urban forestry and nature management.

Besides that He is member of a Dutch taskforce in Urban Forestry.

AESTHETIC PERSPECTIVES OF DWELLING
THE IMPORTANCE OF HUMANISTIC RESEARCH APPROACHES IN URBAN
FORESTRY

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Is the future of urban forestry dependent on how different disciplines, like foresters, architects and ecologists, can overlap their separate fields of knowledge? In recent years there has been a strong belief that progress can be achieved through merely gathering different kinds of researchers in large multi- or trans-disciplinary research projects. Even if such an allocation of researchers from different fields can result in many interesting data, there can be raised objections on the more ideological level. As research mainly has been carried out within the areas of natural sciences there is a fear that a purely object-oriented knowledge culture might continue to suppress the fundamental humanistic dimensions, which are so badly needed in urban forestry.

Advance in the field of urban forestry is strongly dependant on the relevance for people as well as on all the practical measures, which have to be carried out in planning and construction as well as management. Consequently ethical implications cannot be met by a one-sided pre-eminence of evidence of knowledge of facts. In solving this problem it is important to go beyond the traditional standards for rationality in order to avoid the trap of relativism. In doing this it is important to emphasise new ways of communication and use language, which has less to do with semantics than with the classical art of rhetoric. In emphasising communication as well as practical and embodied knowledge in human action, these theories can be traced back to Aristotle. In their endeavour to understand the loss of meaning in modern society the tradition has later on been carried forward by several modern philosophers. Further on there are close connections to post-structuralist and post-modern theories of architecture and design.

In a broad outline this is a view that focuses on the act of expression and in doing so also relates to the importance of both lived experience and aesthetics. The perspective offers a background for formulating questions, thoughts and ideals of our time. At the same time it is pointing out the importance of creative means, to be used in the construction and cultivation of places where people can settle down and feel at home, i.e places for human dwelling.

Key words

Aesthetics, art, rhetoric, action, ethics.

Key references

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Biography

Agr. Dr. and senior lecturer in Landscape Architecture and Planting Design. In recent years my research interest has been focused on the understanding of professional and historical aspects of garden design and landscape architecture. Hereby I have studied issues of relevance for how gardens, parks and landscape have been formed in accordance with its societal and professional context. By regarding green environments as expressions for underlying dimensions of meaning I have especially found it useful to connect to the tradition of Aristotelian philosophy, with philosophy of history, rethoric and aesthetics included.

URBAN FORESTRY IN THE NORTHEAST UNITED STATES
BRIDGING TREES, PEOPLE AND PLACES

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This presentation will describe the federal Urban and Community Forestry Program as delivered in partnership with the 21 states that make up the Northeastern Area of the United States. With a staff of nine urban forestry specialists and a budget of \$12 million, the federal program in the Northeast provides financial, technical, educational and research assistance to state and local governments, non-governmental organizations, and academic institutions to improve the condition and extent of community trees and forests. The region is home to 120 million residents living in 104 metropolitan areas including cities as varied as Boston, New York, Washington, St. Louis, Minneapolis, Chicago, and Detroit. Challenges and methods will be highlighted with regard to engaging diverse audiences, increasing tree cover in dense urban areas, maintaining state and local budgets for tree planting and care, collecting and improving access to data, growing popular support at state and local levels, and elevating the profession to create an educated constituency for urban forestry in the most populated area of the country.

The Northeastern Area of the United States Department of Agriculture Forest Service covers 1.671 million hectares—an area equivalent to the size of France, Germany, Italy, and Spain combined—encompassing 20 States and the District of Columbia, with a total population of 120 million (43% of U.S. Census in 2000). The mission of the Urban and Community Forestry Program funded by the U.S. Congress is to improve the condition and extent of trees and forests in cities, their suburbs and towns. This presentation will introduce readers to the federal program, its methods and accomplishments in the Northeast and Midwest United States. The 1990 U.S. Farm Bill, authorized an enhanced Urban and Community Forestry Program within the USDA Forest Service in response to informal studies that found trees and forests in urban areas to be declining in health. Congress determined at that time that federal investments in forest lands, shade trees, and open space in urban areas and communities would improve the quality of life for residents, enhance the value of residential and commercial property, and aid in reducing the buildup of carbon dioxide and promoting energy conservation through mitigation of heat island effects. In addition, Congress affirmed that federal investment would contribute to social well-being, foster a sense of community, and strengthen research, education, and technical assistance leading to the protection and expansion of urban tree cover. All of these advanced ideas at the time have played out and been validated after 15 years of continuous investment. Federal funds—rising from an initial annual appropriation of \$20

million nationally to a high of \$36 million—were used to establish programs managed by State forestry offices, in every state and territory, for the distribution of technical and financial assistance to local units of governments and non-governmental organizations. In the Northeastern Area at the end of 2005, 104 metropolitan areas including more than 3,700 communities were actively engaged in efforts to improve the condition and extent of their urban tree cover. These efforts were fostered by strategic federal investments in research and technology transfer leading to greater local awareness and matching investment of time and money in tree and forest inventory, planning, planting, protection, and maintenance activities. Today, more than 40% of the region's population live in communities that have professional staff, tree protection policies, advocacy organizations, and inventories and management plans in place. Another 36% of the population lives in communities that are in process of developing all four of these elements. Thus, after 15 years of investment, 76% of the region's residents live in communities improving their quality of life and environment through tree planting and care.

The following cities and projects were highlighted to illustrate the scope of program activities:

- Boston, Massachusetts: CityRoots Program
- New Haven, Connecticut: Urban Ecology Collaborative, MERGE
- New York City: GreenStreets, Tree Rescue, OASIS, and Living Memorial to 9-11 projects
- Philadelphia, Pennsylvania: Governor's TreeVitalize Program, Philadelphia Green
- Wilmington, Delaware: Cultivating a Greener Community
- Baltimore, Maryland: Watershed 263, Tree Cover Goal-setting
- Washington, DC: Casey Tree Endowment Fund
- Minneapolis, Minnesota: Trees Pay Us Back, Plymouth Avenue Project
- Chicago, Illinois: GreenStreets, Chicago Wilderness, TreeKeepers Network
- Detroit, Michigan: Green Corps.

Key words

Urban Forestry, Cities, United States, Forest Service, outreach, awareness, education, tree cover, inventory, planning

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Biography

Phillip Rodbell is manager of the U.S. Forest Service 21-state Northeastern Area Urban and Community Forestry Program. He has 25-years experience in nonprofit action, municipal planning, public administration, and consulting arboriculture including more than three years international experience with the Peace Corps in Honduras. He holds a Bachelor of Science in Forest Management from the University of Washington in Seattle, and a Masters of Science in Forest Resources from North Carolina State University in Raleigh.

YOUTH EXPERIENCES OF PUBLIC GREEN AREAS
Social values of green areas reflected through local knowledge

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Young people are active users of public green areas. Previous studies in Finland have focused on mapping adult experiences related to urban green areas. It is, however, unclear if youths share the same values and uses that adults do. This paper presents the main results of a survey conducted among high school and college pupils during autumn 2004 in eastern Helsinki. The respondents were between 14 and 19 years old, half of them were living in the study area at the time. Respondents were asked to identify and map valuable environmental qualities of their daily environment, such as beautiful scenery, peacefulness and places for activities. The results were compiled in map form using GIS software. Moreover, use intensities were asked about, as well as favorite places. All students responded to the survey (300 people), 55% of the answers related to identifying key qualities on a map were accepted for further analysis. Results show, that youths appreciated the most aesthetic environments and tranquility as the adults also did (in an earlier study). Boys emphasized more possibilities for activities and girls space and freedom. In general, youths found these characteristics in green areas closer to residential areas than adults. Nature, instead, was less valued among young people compared to adults. The social value maps were also interpreted with qualitative documents consisting of group works of 14-year old pupils. They had made tour-guides of their suburb, including photographs and texts. In these documents young people described their everyday environment through activities and local knowledge, and highlighted which areas they appreciate the most. These group works clarified the alternative meanings of green areas for youths. They also enlightened the competence of youths to describe the areas in question, the different user groups, and unofficial local histories of green areas. As youths spend their time often shifting from place to place, the local green areas are important as liminal spaces between the home, the school and the centre. The mapping revealed that youths use green areas differently from adults. They mainly stay close to their neighbourhoods, unlike adults who tend to follow recreational networks. The respondents stressed the purpose of just hanging around. Compared to adults, who often sought solitude, youths appreciate the social life in green areas. For youths they are places to

meet friends and enjoy also other people around. Only 28 % of the boys and 18 % of the girls mentioned a favorite area. As a whole, boys responded more actively and were more active green area users. Boys also presented more focused development ideas for different places considering activities. The green area values are both personal and collective. The respondents shared strongly the appreciation of the most significant parks. For green area planning and management, local knowledge reveals important aspects of green area uses and perceptions as lived in places through local traditions and practices. One of the future challenges is to integrate different age group evaluations more effectively into planning and to better understand how different phases of life influence green-area valuations and relationships.

Key words

Green area uses, green area values, local knowledge, social value mapping, youths

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Biography

Kirsi Mäkinen is a PhD student of Urban Silviculture at the University of Helsinki. Her title is 'Social values and meanings of urban green areas'. Her interest is to study especially social and cultural meanings of urban woodlands.

Dr. Liisa Tyrväinen works as a professor at the Finnish Forest Research Institute. Her doctoral dissertation dealt with monetary valuation of urban forest amenities. Previously she has worked as a senior lecturer and a project leader both at Joensuu and Helsinki universities. The main part of her work has been directed towards studying forms, functions and non-priced benefits of urban forests. Other research interests cover landscape preference research, the use of landscape visualization tools in forest planning and developing tools for collaborative forest planning.

THE INVENTORY AND MANAGEMENT OF THE WOODLAND WITHIN THE
HISTORICAL PARK OF THE FARNESE PALACE OF CAPRAROLA⁽¹⁾.
A CONTRIBUTION TO THE INVENTORY OF THE FOREST STANDS WITHIN
HISTORICAL PARKS

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The XVI century Farnese Palace of Caprarola, is an imposing mansion built by the Cardinal Alessandro Farnese, nephew of the Pope Paolo III, outside the city of Rome. It dominates the landscape of the southern slope of the Monti Cimini, a group of volcanic relieves in Northern Lazio. The Palace is surrounded by an historical park which includes – besides the Italian gardens and the rows of ornamental trees – about 13 ha of woodlands divided in three types of vegetation: a mixed silver fir (*Abies alba* Mill.) and mesophilous hardwood forest; a chestnut coppice and a chestnut orchard for fruit production. Such composite woodland allows the Palace to integrate harmonically into the similar surrounding landscape (Ciancio, 2004). The present research had three goals: 1) to update the boundaries of the areas covered by the different types of vegetation in respect of a XIX century map, and to inventory the forest stands within the historical park; 2) to analyse the size and age structure of the stands, by means of dendrometric attributes and dendrochronological investigations, in order to detect the changes occurred as a consequences of the past management and natural stand dynamics; 3) to propose management criteria for the woodland aiming at the conservation of the aesthetical and landscape role of the historical park (Boriani e Scazzosi, 1992) but also considering the possibility of opening the woodlands to the visitors of the Farnese Palace which is not possible today. Silvicultural guidelines inspired to the principle of the Systemic Silviculture were also proposed as a management tool for the mixed forest stand, the chestnut coppice and chestnut orchard (Ciancio & Nocentini, 1996; Gadow, 2002; Agrimi et al., 2006) .

Dendrochronological analysis on silver fir will allow comparison with master chronologies built on the same species in Italy and on different species of the same area (Romagnoli et al., 1992, Schirone et al., 1993, Romagnoli et al., 2005).

¹ Agrimi, Bollati, Borgna and Portoghesi were the authors of the chapters devoted to the analysis of stand structure for the management purposes; Romagnoli and Sarlatto developed the dendrochronological aspects of the research.

The results are a first contribution to the work of inventoring of forest stands within the historical park the Italian Ministry for Cultural Heritage, responsible for the management of the Palace, is going to implement.

Key words

Urban Forestry, urban silviculture, systemic silviculture, historical parks management, dendrochronology, Silver fir

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Biography

Mariagrazia Agrimi. Graduate in Forestry. Researcher at the University of Tuscia, lecturer of Urban forestry. Associate professor at the Faculty of Architecture, University of Rome, "La Sapienza", lecturer of Principles of Dendrometry and Silviculture. He is carrying out researches mainly on the following topics: a) sustainable and multifunctional management of Italian stone pine forests; b) systemic silviculture as a tool for the management of urban forests. She is co-author of a monography on the *Pinus pinea* L. for the FAO Silva Mediterranea Network. He published more than 20 papers on national scientific magazines and proceedings of international conferences.

Simone Bollati. Graduate in Forestry. Scientist at the Dept. of Forest Environment and Resources (University of Tuscia) where he collaborates to the researches on forest structure analysis and forest typology.

Alessandro Borgna. Graduate in Forestry.

Luigi Portoghesi. Graduate in Forestry. Associate Professor at the University of Tuscia, lecturer of Dendrometry and Forest management. He has been carrying out researches for twenty years, mainly on the following topics: a) management of coppices and tree plantations for production of biomass for energy in central Italy; b) stand structure and dynamics of Mediterranean forests; c) management criteria for forests not longer managed for timber production. He participated in the COST Action E3, Concerted action MUFOMA and Bioforum. He is author or co-authors of more of 50 papers published on national and international scientific magazines and proceedings of conferences.

Manuela Romagnoli. Graduated in Forestry. PhD in Wood Science, Associate Professor of Wood Science and Technology. Vice-President of Italian Institute of Dendochronology, associate editor of the international journal "Dendrochronologia", referee, chair in congresses. Involved in wood technological characterization and quality evaluation. Research topics are wood identification, anatomical characterization, dendrochronology for building master chronologies especially in central-southern Italy and for dating art-historical artefacts, archaeological and archaeobotanical remnants; integrated dating systems dendrochronology-radiocarbon (wiggles matching); physical investigation on wood (RX, NMR). She is author or co-author of more 60 papers published in national and international scientific magazines and proceedings of conferences.

Mara Sarlatto. Graduated in Forestry. PhD in Wood Science. Scientist at the Dept. of Technology, Engineering and Science of Forest and Environment, where she collaborates to the research on the xylological, technological and dendrochronological analyses of wood in the Cultural Heritage (Cofin Miur Project). The specific themes of her research are: wood anatomy (wood identification, biotic and abiotic alteration analysis of wood cells), physical and mechanical characterization of wood (density, linear shrinkage and mechanical strength properties), dendrochronological analysis (dating of wooden artefacts and chronology building by living trees).

ATTITUDES TOWARDS URBAN GREEN SPACE, PERCEIVED RESIDENTIAL QUALITY AND NEIGHBOURHOOD ATTACHMENT IN THE CITY OF ROME

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Inhabitants' perception and use of urban forests and other urban green spaces have increasingly been in the focus of scientific research in the last decades. An important contribution to the study of this issue came from various environmental social sciences, such as Environmental Psychology (Bonnes & Carrus, 2004). This paper explores the relationship between different spatial-physical characteristics of the city and residents' perception, attitudes and uses of it. Specifically, the natural features of the urban environment, such as its green areas, are focused on.

In particular, the relations among: a) attitudes towards urban green spaces; b) frequency of use of urban and peri-urban green areas; c) perceived quality of urban residential green spaces; d) neighborhood attachment; e) environmental value orientations; f) general environmental concern; and g) general pro-environmental behaviours were explored through a field-study, conducted in the city of Rome.

A paper-and-pencil questionnaire was administered to 500 residents of different neighborhoods of Rome. These varied for their amount and quality of green spaces available. The main socio-demographic characteristics of participants (age, gender, level of education) were purposively balanced during the process of data collection. Subjects were approached by trained interviewers in informal places (city streets, shops, malls, etc.) and were asked to participate in a University survey about environmental perception.

The questionnaire was composed by several psychometric instruments. Part of these were drawn from the international environmental psychological literature, and were translated and adapted to the Italian context. Other were instruments already set up and validated in the Italian context and used by the authors in previous studies. The instruments measured the following variables:

- Attitudes towards urban green spaces;
- Frequency of use of green areas inside and outside the city;
- Perceived residential quality;
- Neighborhood attachment;
- General ecological behaviour;
- General environmental concern;
- Environmental value orientation.

Preliminary Multivariate statistical analyses (Principal Component Analyses, Reliability Analyses), performed to assess the psychometric properties of the various measuring instruments considered, confirmed the predicted structural properties (dimensionality, internal consistency, concurrent validity) of the scales used, as well as their adaptability to the Italian context.

A further set of analyses (Hierarchical Multiple Regression, HMR and Structural Equation Modeling, SEM; Bollen, 1989) tested the possible causal paths among the variables considered. Preliminary results seem to indicate a significant link between general environmental concern and positive attitudes towards urban green space. Results also indicate a positive link between inhabitants' use frequency of intra-urban and extra-urban green spaces.

The theoretical implications of the results for the domain of environment-behavior studies are discussed, as well as their practical implication for the domain of urban planning, with particular reference to the issue of the role of urban forests for the promotion of urban sustainability and inhabitants' well-being.

Key words

Neighborhood attachment, behaviour, environment perception.

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Biography

Giuseppe Carrus, PhD, is researcher at the University of "Roma Tre". Since many years he carries out and collaborates to research works on the social psychology of the environment, focusing in particular on the role of identity processes and place attachment in people's perception, attitudes and behaviours related to the natural and built environment. He is author of various national and international publications in this field.

Paola Passafaro earned her PhD in Social Psychology at the University of Rome "La Sapienza". Since many years she carries out and collaborates to research works on the social psychology of the environment, focusing in particular on the relationship between attitudes and ecological behaviours.

Mirilia Bonnes, PhD, is Full Professor of Environmental Psychology at the University of Rome "La Sapienza". Since more than two decades she carries out and coordinates research works on the social psychology of the environment, at national and international level. She is co-author, with G. Secchiaroli, of the first introductory volume to this field in Italy (Carocci, 1992), which was then

translated in English (Sage, 1995) and adopted as a text book in many Universities world-wide.

SPACE FOR PEOPLE
TARGETING ACTION FOR WOODLAND ACCESS

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Space for People sets out the Woodland Trust's strategy for access to woodland in the UK. By developing a strategy for accessible woodland near to where people live, in both urban and rural areas, we believe society will enjoy many of the other benefits that woodland offers, including improvement of health, landscape enhancement, filtration of air pollution, soil stabilisation and flood alleviation. In all, woodland can help deliver 10 of the UK Government's 20 headline quality of life indicators.

No inventory of accessible woodland existed in the UK before this work began. The first step was therefore to carry out a comprehensive analysis of the extent of accessible woodland across the UK. This was necessary before any consideration could be given to assessing the need for more accessible woodland. A Woodland Access Standard was developed, based on wide-ranging surveys of public use and opinion of woodland. This states that 'we aspire that everyone should have an accessible wood (of more than 2ha) within 500m of where they live, and that they should also have a larger wood (of more than 20ha) within 4km of where they live'.

This paper describes how we have used GIS to assess the extent of permissively accessible woodland in the UK, presents the Woodland Access Standard and the research and thinking behind it, and finally establishes targets across the UK for opening up existing woods for public access and creating new woods where insufficient woodland currently exists. It is the first time such an exercise has been undertaken at a UK level and, while the targets may seem challenging, they represent the result of detailed analysis. This research is, however, only the start. As updated or new data on woodland access becomes available, the extent of access to existing woods will be reviewed. The tables at the end illustrate current targets.

This work is aimed at decision-makers and those working on policy and practice in the planning and recreation sectors. It is hoped that it will encourage new thinking on the quantity and quality of woodland access in the UK and inspire practitioners to value, perhaps for the first time, the role that woodland has to play in the greenspace debate. It includes a number of elements that may serve as useful tools for decision-making at the local level.

Summary of targets by country

Country	Accessible woods		Inaccessible woods		Woodland creation required			
	% population with access to 2ha+ wood within 500m	% population with access to 20ha+ wood within 4km	Extra % population with access to 2ha+ wood within 500m if existing woods opened	Extra % population with access to 20ha+ wood within 4km if existing woods opened	% population requiring new woodland for access to 2ha+ wood within 500m	% population requiring new woodland for access to 20ha+ wood within 4km	Minimum area of new woodland required to ensure access for all to 2ha+wood within 500m	Minimum area of new woodland required to ensure access for all to 20ha+ wood within 4km
England	10.18	55.18	26.08	26.74	63.74	18.08	48,683	15,392
Wales	15.74	72.25	43.21	25.28	41.05	2.47	3,817	720
Scotland	15.32	54.41	38.45	41.16	46.23	4.43	2,640	1,280
North. Ireland	7.45	50.32	22.52	16.29	70.03	33.39	2,604	1,988

Key words

Accessible woodland, greenspace, woodland access standard, urban woodland, woods for people, space for people.

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Biography

Nick Collinson has worked in nature conservation for the past 12 years. Following 4 years managing woodland sites for the Woodland Trust in SW England, I spent 4 years as Reserve's Manager & Deputy Director at a county Wildlife Trust. In 2000 I returned to the Woodland Trust in a conservation policy position, and amongst other areas of expertise including agricultural policy and phenology, I began research into woodland access. I now head up the Conservation Policy Team at the Woodland Trust and am responsible for dissemination of our conservation policies both internally and externally.

THE TREE INVENTORY AS A PROACTIVE MANAGEMENT TOOL:
EXPERIENCES FROM THE MUNICIPALITIES OF CERVIA, ITALY AND OAK PARK,
USA

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The tree inventory is the foundation for developing long-term maintenance and management strategies for a municipality's urban forest. Using two recent projects from Italy and the United States, the presenters will outline the specific elements and outcomes from each inventory and discuss their long-term use.

As managers of urban forests we have an implied duty to maintain the health and quality of this forest. The benefits of a healthy canopy to the residents of a Municipality have long been understood. Recent research has greatly increased our knowledge of these benefits. The reduction of particulates, the absorption of CO₂, the modification of water run off, the control of temperatures in and around buildings are just a few of the quantifiable benefits we can realize. In addition to the environmental benefits, however are the cultural, historical and aesthetic benefit the residents obtain from a healthy urban forest.

The inventory is one of the primary tools for developing comprehensive, sustainable and appropriate arboricultural and management practices. A recent inventory of the Municipality of Cervia, Italy will form the basis of discussion. This four-year project evaluated and mapped 24.000 public trees. While the initial focus of the project was to identify high-risk trees and to develop strategies to mitigate the highest-risk, long-term strategy development is also an important outcome.

Dotts Morelli and Gasperini will outline the sequential phases of the project from design, logistics and costs to identifying trees requiring instrumental stability assessments. Long-term strategies to be discussed include the greater potential use of the data for managing multiple urban forestry issues such as tree risk management, ancient tree preservation, GIS analysis, species diversity, and improved forest health.

Mr. Duntemann will follow with a discussion of a reinventory conducted in Oak Park, Illinois (USA). While hazard tree identification was an important element of this inventory project, the primary focus was on improving maintenance and management programs for the City. Mr Duntemann will demonstrate how the inventory is used to gauge change over time from the previous inventory conducted in 1985. The change over time assessment allows an urban forester to

evaluate the success or failure of certain elements of their program. This evaluation process allows the manager to adjust their program to address any negative issues identified.

Closing comments will compare and contrast the differences and similarities of scope and outcomes for these projects.

Key words

Tree inventory, urban forestry, urban forestry management, species diversity, tree risk management.

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Morelli G., 2006. "Censire il verde ornamentale", (in progress), Alberto Perdisa Editore

Biography

Stefania Gasperini, is the owner and manager of AR.ES.. Gasperini graduated in agricultural sciences and formed AR.ES. in 1996 as a company of consultants in urban forestry, parks and green areas. The main goal of the company is to provide management practices of the most current information in arboriculture and horticulture, for it's diverse clients. Some of the specilaized services provided by AR.ES. include implementing tree inventories, developing master plans of green areas, conducting tree risk evaluations, authoring tree risk management strategies, and providing care of ancient trees. In her professional life, Gasperini speaks and presents at workshops on these, and related topics.

Giovanni Morelli graduated in agricultural sciences and started his professional activity in 1994. Morelli, through Progetto Verde, provides hazard tree assessments, tree appraisals, tree risk management policies, tree inventories, regulations for municipality for trees and parks, and the restoration of historical gardens. His clients are mainly local administrations and with his staff work from Torino to Avellino. Morelli has written numerous papers and provided many

lectures on his favourite topics: phytopathology and bio-mechanics of trees. Recently, he wrote a Manual for the care of ancient trees for the Regione Emilia-Romagna.

Mark Duntemann, is the owner of Natural Path Urban Forestry Consultants. He received a Masters in Urban Forestry from the University of Wisconsin – Madison and founded Natural Path in 1988. Duntemann works with government agencies across the country to develop progressive urban forestry maintenance and management policies. Duntemann developed the software programs: *Canopy*, *Trees in the Hood*, and *TRiM: Tree Risk Management*. The company has inventoried 1.25 million trees in over 150 communities in the United States and Canada. He has authored articles on tree risk management, tree inventories and urban forestry policy development. Duntemann is currently working on two urban forestry related books.

P.A.C.E.
PARTICIPATION AND COMMUNICATION OF EMOTIONS
KIDS NEEDS WILDERNESS

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With this point of view the community of Collepietra – Steinegg, 10 km near to the town of Bolzano in South Tyrol, had the necessity to realize a play public garden, where children can amuse play and enjoy.

So the local forest service with the collaboration of the citizens, of the local school and administration defined the following guidelines:

- maintenance of the local forestry cover;
- maintenance of the local soil morphology;
- only small soil movements;
- cutting of some trees to optimize the light effects (shadow-light balance), the visibility and whose wood has been used to make playing structures;
- allowing the free expression of children's fantasy and creativity using the natural materials they can find on the surface (stones , woods, branches.....) ;
- possibility to develop and improve learning processes together with the school.

The high environmental sustainability, the great people's identification, the potential reversibility of the action, and also the low costs for the realization and maintenance, testify that this is one of the right ways to make bridges between new needs of the society and new – old values to enjoy and to learn in and with the forest and the nature.

Key words

Urban forestry, playing place, multipurpose forestry planning, forest management, landscape planning, parks, recreation, participation, communication, health, sociology

Key references

Broll M. and Dalla Palma M., 2004. Il conclave dei patriarchi. La rivista del TREKKING, giugno 2004; 28- 33.

Biography

Forester. Degree in forestry sciences at the university of Padova in 1983. Teacher in mathematical and natural sciences in the 2. school. From 1986 forest manager in the forestry planning office of the autonomous province of Bolzano and head of that from 1995 to 2001. Since 2001 head of the forestry inspectorate of Bolzano. Expert in multipurpose forestry planning and management. F.A.O. consultant in the "Albania forestry project" 1997. Expert in forestry certification. Member of the scientific council of the agricultural and forestry research institute of the autonomous province of Bolzano. Member of the Italian academy of forestry sciences. Since 1997 member of the IUFRO group on urban forestry. Vice president of the "Suedtiroler Forstverein" (South Tyrol forestry association).

DOES THE FOREST WALK? INSTITUTIONAL CAPACITY BUILDING AND URBAN PARKS DESIGN ALONG A PARTICIPATORY APPROACH

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As I did stand my watch upon the hill,
I look'd toward Birnam, and anon, methought,
The wood began to move.
(Macbeth, Act V, Scene V)

The Urban Environment reflects the peculiar multi-scaled influences and needs of the city dwellers. It embeds as well the multilingual knowledge (unconscious, cognitive, emotional) that generates the sense of belonging to a space and allows it to become a Place. Even if some parks or woodlands in and around towns are regarded as success spaces, they rarely become Places where the forest and greenery are perceived as a full experience of nature and life at the doorstep. In parallel, urban spaces that can become parks or woodlands as well as existing green spaces are subjected to pressures and conflicts derived by the complex set of functions that cities either urban developments requires (Konijnendik & Schipperijn, 2004). The better perception and increasing awareness of planning and design actions in urban areas generates a growing attention to the social dimension of urban forest and greening and in particular to the active engagement of people (Van Herzele et al., 2005 a): the participatory and collaborative approaches are more and more seen as part of the current processes of urban transformation. But still very often the urban governance approach, at least in South Europe, is highly dependent on a "command and control" style (Healey, 1998): urban open spaces have often been planned and designed without an active participation neither a direct involvement of people. Planning and acting on questions of people's living environment has increasingly become a socially embedded practice, shifting from serving an abstract "public interest" to actively engaging the public in the plan making (Van Herzele et al., 2005 b) . At the heart of this approach is a greater emphasis on the exchange of knowledge and the development of ideas through communication with users, residents and community groups (Van Herzele, 2004). The capacity of incorporating and integrating knowledge and styles at institutional and

professional in planning and designing urban green spaces is rather poor and just few experiences are currently ongoing. Capacity building is the process that involves value added actions and instructions, the training of trainers, the participation of participants, networking and activities with multiplier effects. It involves both institutional capacity-building, as well as human capacity-building. It ensures the creation of an enabling environment with appropriate policy and legal frameworks; institutional development, including community participation; and human resources development and strengthening of managerial systems. The paper highlights reports a research/action held in Savignano sul Rubicone (Rimini, Italy) oriented to design a new urban park in a fringe and tension area by starting a participatory and communicative process. The action is evaluated through the lens of potential institutional capacity building in a small municipality by using a set of communicative and participative tools along the laboratories, focus groups and initiatives with school children and teachers. Through the process, the new forest started to walk in the future park.

Key words

Institutional capacity building, participatory design, urban fringe, space and place

Key references

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Van Herzele, A., De Clercq, E.M., Wiedemann, T. 2005 b). Strategic planning for new woodlands in the urban periphery: through the lens of social inclusiveness. *Urban Forestry & Urban Greening*, 3: 177-188

Biography

Claudia Morri and Marialuisa Cipriani, are landscape architects and works as free lance professionals in landscape design.

Bernhard Neulichedl is a free lance architect with particular experience in settlement design and analysis as well as in aggregation patterns of urban spaces and town planning.

Fabio Salbitano is associated Professor at the Department of Science and Technologies of the Forest Environment (DISTAF), University of Firenze. He is professor of Silviculture and Urban Forestry at the Faculty of Agriculture and at the inter-faculty MSc in Landscaping. He has got a Degree in Forestry in Firenze and a Ph.D. in Forest Ecology, University of Padua.

The main Research Activities (author and co-author of 82 Scientific papers) related to Urban Forestry are: Ecological history and landscape dynamics in the Mediterranean region related to anthropogenic influences; Ancient woodlands facing new urbanization phenomena

- Participation processes in urban woodland planning, design and management (EU funded project NEIGHBOURWOODS); Perception, people involvement and attitudes in Multifunctional Urban Greening design and management in tropical and European cities.

He has been a delegate of COST Action E12 'Urban forests and trees' and part of the Management Committee of COST Action E39 'Forest, Human Health and Wellbeing'. Since 2001 he is part of EUFORIC, European Urban Forestry Research Information Centre. He is member of the Scientific Committee of the Journal "Urban Forestry and Urban Greening".

Dr. Ann van Herzele is researcher at the Free University of Brussels, Department of Human Ecology. She has a longstanding experience in the field of research/actions on communication and participation in urban forestry and urban greening, namely in the frame of local, regional and international research projects. In the last several years the research of Ann van Herzele focused on processes of decision making in urban greenspaces planning, design and management. She was part of the team of NeighbourWoods project and is participating to the actions COST E12 "Urban Forest and Trees", COST C11 "Greenstructure and Urban Planning" and COST E39 "Forest, Health and Wellbeing".

THE PSYCHOLOGICAL SIDE OF HUMAN HEALTH IN RELATION TO CLIMATE CONDITIONS AND FOREST AREAS

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Consideration of the psychological effects of global climate change in urban contexts has been absent or insubstantial in most studies and reports to date. There are several reasons for this, including the difficulty in associating mental health effects with urban environment, and the unprecedented nature of climate change. However, studies suggest that adverse mental health consequences may occur if climate change results in clearly perceivable human-induced life's stressors, like air pollution and heat stress due to urban the heat island phenomenon. Baum and Fleming (1993) have suggested that these human-caused stressors contribute more than naturally occurring stressors to chronic stress and other persistent health problems. The complexity of health effects in urban environment leads health impact assessments to focus on the psychological side of human health in relation to climate conditions and forest areas. In this context, a collaborative research framework has been set up within the British-Italian Partnership Programme with the goal to investigate the psychological effects of urban forests and green spaces on citizens during periods of heat stress. To achieve this goal, it is essential to acquire an up-to-date knowledge background regarding the psychological stress and behavioural patterns of citizens in relation to climate change and urban forests. In this paper, we discuss some of the most relevant articles appeared in international journals (since 1995), that deal with one or more of the following subjects: (1) climate & urban forests; (2) climate & human health; (3) urban forests & human health; and (4) climate, urban forests & human health. For each of the analysed articles we highlight some of the key findings, thus illustrating the implications for making cities and urban neighbourhoods fit for climate change through planning, design and management of (multi-functional) urban forests (Gomez et al. 2004). Finally, we anticipate the future development of the collaborative research between Italian and British research institutions in the emerging domains of urban forestry and environmental psychology.

Key words

Climate change, Urban forests, Human health, Literature review.

Key references

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Gomez F., Gil L., Jabaloyes J., 2004. Experimental investigation on the thermal comfort in the city: relationship with the green areas, interaction with the urban microclimate. *Building and Environment*, 39: 1077-1086.

Biography

Raffaele Laforteza is a landscape ecologist with a specialism in urban forest planning, management and use. He has accumulated a wide-range of experience in urban forestry and landscape issues through numerous research projects, including recent archive research looking at the psychological effects of green spaces on citizens during periods of heat stress. He has undertaken teaching of several university courses and graduate/undergraduate seminars in Italy and internationally. He has published in numerous international and Italian journals on land and planning related topics.

Giovanni Sanesi is Associate Professor of Urban Forest and Forest Planning at the University of Bari, Italy. His research has been related to many aspects of trees, forests and open spaces in urban and periurban landscapes. He is the national delegate and member of the Management Committee for the implementation of the European research action - COST Action E39: "Forests, trees and human health and wellbeing" (2004-2008). He has authored and co-authored peer-reviewed articles on sustainable planning and management of urban forests and integration between urban forestry and landscape ecology.

Ivana Dentamaro is a Master Student in Forestry and Environmental Science at the University of Bari. She is currently developing her master thesis trying to explore the link between urban forestry and climate change in relation to human health, with applicative studies in Italy and UK.

Janine Ogilvie is a public health practitioner specialising in Green Exercise. Janine has a long history in working with nutrition and physical activity and has a strong interest in sustainability, which she applies, to all areas of her work. She is currently running a green exercise pilot project in Gateshead a large urban conurbation in North East England which is run by a partnership of governmental, health and research bodies.

Clive Davies is Chief Executive of North East Community Forests, a sustainable development organization and has a professional background in bio-geography and ecology. He has extensive practical knowledge and experience across Europe in the fields of green infrastructure planning, urban and social forestry. Clive Davies has spoken on green infrastructure planning at conferences in more than ten European countries since 1995 and is an accomplished professional in this field. He has published papers and articles in international journals and has served on a number of UK government committees. He has a special interest in green area management and how this can ameliorate the impact of climate change in terms of economy, social and environment considerations.

THE RELATION BETWEEN HUMAN HEALTH AND
THE USE OF URBAN GREEN SPACE
RESULTS OF A CASE STUDY IN THE CITY OF ODENSE, DENMARK

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Health planners, physical planners and public authorities in Denmark have not been aware of the impact green areas have on health and well-being. But premature occurrence of 'welfare deceases' such as stress and overweight, have, however, created a broad interest among planners and authorities in how to use the natural environment for health promoting activities. Physical diseases together with mental stress, depression and burn-out syndrome have become a major economic challenge in the Danish health system. Building on experience from e.g. USA (e.g. Kaplan et al 1998) and Sweden (Grahn & Stigsdotter 2003), a number of health projects has been started in Denmark in order to assess if, how, and why the natural environment is a positive factor in promoting public health.

A comprehensive nation-wide questionnaire (N= 1.250, fall 2004) has shown the Danish population's assessment of the role of nature for health and well-being (Hansen & Nielsen 2005). Central questions were whether and how the public experienced nature and green areas as restorative for mental and physical health. 93% of the respondents believed that nature and green areas positively affected their mood and general well-being positively. The results also showed that the shorter the distance to the nearest green area, the lower the stress level. And with a distance of more than 400 meters to the nearest green area, respondents stopped visiting these areas on average weekdays.

To gain more insight in the use of urban green space, a second questionnaire based study (N=1.350, fall 2005), has specifically focused on the use of urban green space in the Danish city of Odense. The questionnaire was sent out to 2500 randomly selected residents living in the central part of the city. Respondents were asked about their general use of urban green space in the city, the use of specific green areas, the type of activities undertaken in green areas, as well as their general health, exercising and eating customs and social demographic

information. Preliminary analyses indicate that level of outdoor physical activity in leisure time is associated with the access to and the design of urban green space.

Key words

Human well-being, green space management, physical activity, accessibility

Key references

Grahn P., Stigsdotter U., 2003. Landscape planning and stress. *Urban Forestry & Urban Greening* 2(1): 1-18

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Kaplan R., Kaplan S., Ryan R.L., 1998. *With people in mind: design and management of everyday nature*. Island Press, Washington DC

Biography

Jasper Schipperijn, a Dutch National, has a MSc degree in Forestry from Wageningen University and currently works as PhD student and project coordinator at the Danish Centre for Forest, Landscape and Planning, KVL. The development of comprehensive information systems to support urban forestry is Jasper's main research interest and the topic of his doctoral work. Furthermore Jasper is currently acting as coordinator for a number of the centre's international network activities, the European Urban Forest Research and Information Centre (EUFORIC) and the Nordic Centre of Advanced Research in Forestry Serving Urbanised Societies (CARE-FOR-US).

Dr Jens Troelsen is assistant professor at the Institute of Sports Science and Biomechanics at the University of Southern Denmark and holds a doctoral degree in health science. His research originates in health promotion and the main interest is to study the interdependencies between built environment and physical activity. Former studies have put focus on infrastructure and mobility with particular interest in cycling as a form of transportation. Jens gives lectures on health sociology and is vice-chairman for the programmes 'Master of Rehabilitation' and 'Master of Gerontology'.

Prof. Dr. Thomas B. Randrup is professor in park management and urban greening at the Danish Centre for Forest, Landscape and Planning, KVL. Thomas is a Danish national and he holds a doctoral degree in landscape architecture from the Royal Veterinary and Agricultural University (KVL) in Denmark. His research has included studies of urban abiotic growing conditions for urban vegetation and strategic management and policy development for urban green space. Thomas is one of the key persons behind the international master programme 'Urban

Forestry & Urban Greening', currently offered in cooperation between the Swedish University of Agricultural Sciences and the Royal Veterinary and Agricultural University (KVL).

THE IMPORTANCE OF LARGE TREES TO OUR COMMUNITIES
AND HOW TO ALLOW FOR THEM

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This presentation will make a case for a renewed emphasis on planting and maintaining large trees in our towns and cities. Large, stately trees along streets, in residential yards, and in parks are the heart of our community forests. Researchers in the United States have shown time and again that large trees are generally preferred by community residents over small trees or no trees. They are visually more pleasing and have a stronger psychological impact than small trees. Large trees also tend to have greater positive environmental impacts than small trees, including increased shade, evaporative cooling, pollution absorption, storm water interception, and carbon sequestration. They also provide a critical component of wildlife habitat for certain animals, in combination with small trees, shrubs, and other plants.

Many factors work against the establishment and maintenance of large trees in our communities, possibly more so now than in the past. Utility locations and maintenance, street/curb/parking-strip/sidewalk design and maintenance, small lot and large building size, lack of open space availability, concern over infrastructure damage, and liability concerns all tend to steer us toward smaller trees. Even tree advocates often discourage the use of large trees in most settings. For example, many tree experts recommend the planting of small trees in fairly narrow parking strips. In fact, most small trees are not appropriate in such spaces due to their low crowns, and large trees may be appropriate if root systems can be accommodated. Some electrical utilities now recommend that large trees be placed at least 60 feet (18 meters) from overhead utility lines. With these and other restrictions it can become very difficult to find room for a large-maturing tree in a city.

In this presentation I will summarize the research that establishes people's preferences (in the U.S.) for large trees, and will discuss the social and environmental benefits of large trees. I will then describe the factors in our communities that work against large trees and how we can modify these factors, from directional pruning under overhead utilities to establishment of wider parking strips.

This presentation will remind listeners of the importance of large trees in their community landscapes and will describe how to allow for large trees. I hope to get a sense of the magnitude of these issues and applicability of these solutions in Europe. I also hope that this talk will generate increased enthusiasm for large trees and their important place in our lives.

Key words

Large trees, small trees, tree benefits, public attitudes, public awareness, planting space.

Key references

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Schroeder H.W., 1989. Esthetic perceptions of the urban forest: A utility perspective. *Journal of Arboriculture*, 15(12):292-294.

Biography

Dr. Kuhns' received his B.S. in Forestry in 1977 and M.S. in Forest Ecology in 1980 from the University of Missouri, and his Ph.D. from Auburn University in 1986, specializing in tree stress physiology. From January, 1986 to April, 1992 he was Assistant Professor and Extension Forester for the University of Nebraska. Since May 1992 he has been the Extension Forester at Utah State University and now holds the rank of Professor. His programming in extension involves urban and community forestry, trees and forestry in the wildland-urban interface, and rural/conservation forestry. He also conducts research on urban tree culture, urban forestry, and non-industrial private forest landowners' practices and motivations.

THE EFFECTS OF IRRIGATION AND MULCHING ON GROWTH AND PHYSIOLOGY OF SOME SHADE TREE SPECIES

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In the present scenario, we focus on the need for environmentally friendly establishment and low cost management methods of the urban green areas. Compost and its skilled use as mulching material and also to improve organic matter content in the soils, can contribute to such a development. However, the use of compost may not be beneficial, unless the quality is good and the methodology of its use is based on a high level of knowledge in the arboricultural business. Also, the need for efficient water use is emphasised, both by politicians and the general public, especially in Southern Europe. The business of the urban greening sector must take such problems into consideration when deciding upon the choices of methods in plant production, establishment and management. When choosing methodology in urban forestry and urban greening, there may be interactions between the different factors considered, so that when one factor is altered or introduced, other factors need to be modified as well.

The project is focused on the use of cultivation techniques (i.e. mulching with pine bark, mulching with green compost and control where herbicide has been used to control weeds), and their possible influence on growth and physiology of some shade tree species widely grown in the urban environment.

In 2004 an experimental field was planted at the Fondazione Minoprio (Como). Trees have been planted following the randomised block design with 3 blocks and four plants per block. The treatment are mulching with pine bark, mulching with green compost, herbicide.

- a) plant height at the beginning and at the end of the season
- b) bud-break date
- c) shoot elongation
- d) leaf gas exchange
- e) chlorophyll fluorescence

Preliminary results have shown that the cultivation techniques applied in this project can have remarkable effects on tree physiology, but results can be variable according to the species.

Compost was the most effective on *Tilia x europaea*, compared to pine bark and control, while on *Aesculus x carnea*, control with pine bark showed the lowest leaf gas exchange and no differences were found between compost and pine bark. Shoot elongation was higher in the composted linden trees, while no differences emerged in horsechestnut.

Plant height and trunk diameter were affected only in *Aesculus*, with compost showing the best results compared to the other thesis. No differences were found regarding bud break date in 2006.

Chlorophyll fluorescence was affected by the different treatment especially in the second part of the season when compost and pine bark showed higher values compared to control.

Key words

Organic matter, soil, cultivation techniques

Biography

Francesco Ferrini is a full professor of Parks and Gardens at the Department of Horticulture of the University of Florence. At present he is involved in several projects regarding :

- Effect of water stress on growth performance of newly planted trees and its effect on some fungal species infection
- Use of different substrate to improve growth performances of some ornamental species.
- People-plant relationships. Aesthetic Plant and Landscape Perception.

Dr. Arne Sæbø is a research scientist in Norwegian Institute for Agricultural and Environmental Research (Bioforsk). Important projects of dr. Sæbø have been on the eco physiology of plants, especially related to climate and plant performance, and the selection of trees for the urban landscape. At present, the use of compost and development of growing media for plants in the urban environment is central.

Alessio Fini graduated at the University in Milan in 2005. Since his graduation he have been working with Prof. Ferrini first in Milan, then, since November 2005, at the Università degli Studi di Firenze. Recently he has been working with Prof. Ferrini in some projects regarding sustainable cultivation protocols with no or low use of herbicides, low-impact cultivation techniques in the nursery and urban environment and testing of some species and cultivars for their tolerance to water stress.

Dr. Antonio Ferrante is a Ph.D. Horticultural Science, Researcher at University of Milan at the Department of Crop Science. His research activity is focused on the keeping quality of floricultural crops during the postharvest life. Recently he has

been working with Prof. Ferrini in some projects regarding sustainable cultivation protocols with no or low use of herbicides, low-impact cultivation techniques in the nursery and urban environment and testing of some species and cultivars for their tolerance to water stress.

Dr. Manuela Baietto is a Ph.D. student at the Dept. of Crop Science of Università degli Studi of Milan, Italy. Her research interests are about the urban arboriculture and, in particular, the wood decay and the wood decay fungi. At the moment she is testing some new methods and instruments for the early detection of the wood decay in order to prevent the tree falls in the urban environment.

Dr. Piero Frangi, MS in agriculture, is the responsible of experimental activities at the Minoprio Foundation, a no-profit organization devoted to education, training and extension in horticulture. His activity was first addressed to breeding of processing tomato, chrysanthemum, gerbera and Lagerstroemia. Then he made experimental activity on propagation of ornamental shrubs and on cultural techniques in floriculture. In the last years the research has been focused to low-impact cultivation systems for nursery production and to new integrated pest management strategies in floriculture

RELEASE FROM WINTER DORMANCY IN TREES USED IN THE URBAN GREEN
AREAS IN NORTHERN AND SOUTHERN EUROPE

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Trees survive the cold winters by sequential physiological events, leading to build up of dormancy and cold resistance. These processes are normally initiated by environmental signals from photoperiod and temperature. After the establishment of dormancy, low temperatures are necessary to break the physiological dormancy. The sum of chilling temperatures needed for the break of winter dormancy varies for different species and ecotypes. After chilling needs are fulfilled, bud break will happen when temperatures are high enough. The danger of damages to the trees by spells of spring frost may be larger in the cities, where the added effects of warming due to the city structures and the general climatic change may give a rather large increase in temperatures. The aim of this study was to examine when endo-dormancy in a set of 15 important tree and shrub species, used in the cities and the landscape of Europe, is broken in the spring. The results may be of importance for those species, provenances and cultivars that are to be chosen in the cities under different climatic regions and in a situation when climates are changing.

Twigs of the last year growth were harvested for two years from trees and shrubs, every two weeks from the end of December until bud break under natural conditions. Branches were harvested from plants near Milan, Italy (45.43°N, 9.04°E), or from plantings and native tree and shrub stands in Norway (58.57°N, 5.40°E). The twigs were put in a vase with water at 18 °C in a greenhouse at 70 - 80 % relative humidity in Italy. In Norway, two growth chambers were used with the same climatic conditions as in the Italian experiment. The photoperiods were either 8 or 16 hours in the growth chambers. Numbers of days from the start of forcing until bud break were recorded.

The preliminary results show that the tested species were very different with respect to how soon they are receptive for the forcing temperature in the spring. The results are discussed in relation to the use of the plants in the climates of cities and to possible effects from climate change.

Key words

Bud break, dormancy, forcing, urban forestry, winter physiology, woody species

Biography

Dr. Arne Sæbø is a research scientist in Norwegian Institute for Agricultural and Environmental Research (Bioforsk). Important projects of dr. Sæbø have been on the eco physiology of plants, especially related to climate and plant performance, and the selection of trees for the urban landscape. At present, the use of compost and development of growing media for plants in the urban environment is central.

Dr. Piero Frangi, MS in agriculture, is the responsible of experimental activities at the Minoprio Foundation, a no-profit organization devoted to education, training and extension in horticulture. His activity was first addressed to breeding of processing tomato, chrysanthemum, gerbera and Lagerstroemia. Then he made experimental activity on propagation of ornamental shrubs and on cultural techniques in floriculture. In the last years the research has been focused to low-impact cultivation systems for nursery production and to new integrated pest management strategies in floriculture.

Alessio Fini graduated at the University in Milan in 2005. Since his graduation he have been working with Prof. Ferrini first in Milan, then, since November 2005, at the Università degli Studi di Firenze. Recently he has been working with Prof. Ferrini in some projects regarding sustainable cultivation protocols with no or low use of herbicides, low-impact cultivation techniques in the nursery and urban environment and testing of some species and cultivars for their tolerance to water stress.

Francesco Ferrini is a full professor of Parks and Gardens at the Department of Horticulture of the University of Florence. At present he is involved in several projects regarding :

- Effect of water stress on growth performance of newly planted trees and its effect on some fungal species infection
- Use of different substrate to improve growth performances of some ornamental species.
- People-plant relationships. Aesthetic Plant and Landscape Perception.

MONUMENTAL TREES INVENTORIES AT DIFFERENT SCALES:
OBJECTIVES AND PERSPECTIVES

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In 1982 began the first inventory of Italian monumental trees, conducted by Italian Forest Service. In the late 90's several Regional administrations recognized the value of veteran trees heritage by means of regional laws, which in most cases identified the status of monumental tree, defined the rules for trees protection and valorisation and established regional catalogues of monumental trees. Anyway, at national scale a clear definition of what a *monumental tree* is still doesn't exist, while at regional scale each region gives different interpretations and definitions pointed out both on intrinsic (age, dimension, etc.) and extrinsic characteristics (landscape or architectural functions, references to historical events or to local traditions, etc.) of the tree.

As definitions are quite similar, inventory methods and informative contents are very different from region to region and, of course, at different scales. Relevant differences are found in the objectives of inventories (trees protection, trees management and valorisation, divulgation of environmental values, promotion of rural landscapes, tourism, etc.), in the methods (from simple lists to more complex databases integrated in administrations' Geographical Information System) and first of all in the inventory's subject: single trees, groups, etc. The paper first of all focuses on differences in objectives, methods, and information collected by existing inventories.

Veteran trees are sometimes taken into account by planning instruments at various levels, as Co-ordinate Territorial Plans (P.T.C.) at Provincial scale and, rarely, by Structural Plans at Municipal scale. In the frame of the new Province Pistoia Co-ordinate Territorial Plan (P.T.C.), an inventory of veteran trees was promoted in order to establish an exhaustive data base in relation to trees' consistency and health conditions, integrated in provincial administration's Geographical Information System. The first step of the inventory consisted in a comparative analysis of previous inventories at different scales, in order to focus inventory's objectives and information to collect. Furthermore, the inventory was the occasion to test the effectiveness of initiatives at regional and national scale in the identification of veteran trees at local scale, as a comparative evaluation of

all actions undertaken till now pointed out a basic incommunicability between different lists. Vice-versa, it was the occasion to verify if an inventory at provincial scale is able to bring information on veteran trees relevant at regional and national scale, too.

Key words

Veteran Trees, Monumental Trees, Trees Inventory.

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Biography

Mario Vannuccini: Degree in Forest Science in 1996, Ph.D. in Arboriculture for Timber Production in 2002.

ELEMENTS OF AN URBAN TREE RISK MANAGEMENT PROGRAM

Mark Duntemann

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Urban foresters contend with the question of tree risk on a regular basis. Learning how to assess hazard trees has been a primary focus of the profession for many years. This session focuses on risk and how professionals that maintain and manage large numbers of trees can develop progressive risk reduction strategies that are also reasonable, achievable, and defensible.

This session will initially focus on the concept of risk and compare the cross-cultural understanding of risk and liability. Examples will be drawn from South America, North America and Europe. In the United States, litigation is about monetary compensation. The settlements derived from tree-related fatalities have been as high as \$3.25 million dollars. Federal, state and municipal governments that maintain large insurance policies are easy prey for lawsuits when the financial return to law firms can be considerable. Government agencies need to be vigilant about their overall tree risk program for this reason.

The identification of a specific tree for removal is ultimately a short-term risk management goal. Most well-developed, long-term strategies deal with managing the entire urban forest over time. The policies for managing risk at these two scales—the individual tree and the urban forest—are very different, but each is an integral element of a comprehensive urban forestry risk management program. Micro-scale policy focuses on increasing knowledge, skills and experience to better assess individual trees for risk. At this scale the emphasis is on refining training experiences. Macro-scale policy development involves the intersection of both word and action. Critical questions at this level include: What elements of the population pose the highest risk over time to the public? And, how does the municipality address these large forest level issues?

The second half of the session will include a discussion on using simple parameters to identify high-risk features within the tree population. How a manager analyzes the interaction between high-risk elements in the tree population and defines a long-term, managed approach to tree risk reduction will be addressed. High-risk elements include poor-quality species, structural defects, large diameter, identifiable targets, and poor or worse health conditions.

The municipal forester uses these simple assessment parameters to highlight the tree population features that pose the highest risk to the public. Once problem areas are identified, a long-term plan is devised to address them. Policies are constructed relating to day-to-day operations, long-term risk reduction goals, planting programs, staff training, and ordinance improvements. These enacted policies reduce the long-term risk of harm to the public.

The session's conclusion will outline an eight-point model for implementing a tree risk management strategy. This program emphasizes two concepts. First, a well thought out and implemented risk reduction strategy improves the overall health of the urban forest which results in a safer environment for the urban forest users. This goal is universal, regardless of national boundaries. Second, a documented and implemented tree risk management policy forms the foundation for a municipality's defense if litigation ever occurred.

Key words

Hazard trees, tree risk management, urban forestry, policy

Key references

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United States Department of Agriculture, 2003. Urban Tree Risk Management: A Community Guide to Program Design and Implementation. USDA Forest Service, Washington, DC, 189 p.

Biography

Mark Duntemann, is the owner of Natural Path Urban Forestry Consultants. He received a Masters in Urban Forestry from the University of Wisconsin – Madison and founded Natural Path in 1988. Duntemann works with government agencies across the country to develop progressive urban forestry maintenance and management policies. Duntemann developed the software programs: *Canopy*, *Trees in the Hood*, and *TRiM: Tree Risk Management*. The company has inventoried 1.25 million trees in over 150 communities in the United States and Canada. He has authored articles on tree risk management, tree inventories and urban forestry policy development. Duntemann is currently working on two urban forestry related books.

EARLY DETECTION OF FUNGAL TREE PATHOGENS BY REAL - TIME PCR

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Fungal diseases on forest trees may be studied using molecular approaches. During the last few years real-time PCR has revealed an important tool for early detection of pathogenic fungi in asymptomatic plants; recently it has been adopted to study and to assess and quantify mycoflora fluctuations in latent phase. By using classical approaches as isolation on agar media some pathogens are difficult to isolate, while others are masked by micro-organisms that overgrow them in vitro. A real-time PCR method for the fungal detection and identification in symptomless tissues have been recently developed to study the following pathosystems: *Sphaeropsis sapinea* / *Pinus nigra*, *Biscogniauxia mediterranea* / *Quercus cerris*, *Q. ilex* and *Biscogniauxia nummularia* / *Fagus sylvatica*. The occurrence of fungi has been detected in one year shoots from asymptomatic trees. Samples were split in portions and used for isolations on agarized media, for DNA extraction. Specific primers and probe for each fungal species were designed, real-time PCR was run by using TaqMan™ chemistry and testing on axenic cultures and a-symptomatic tissue. The occurrence of pathogenic fungi in asymptomatic shoots was detected with a percentages ranged from 75.0% to 95.0%. The sensitive of the real-time PCR assay ranged from 0.001 to 0.01 pg/DNA.

These studies confirmed the reliability of this technique to detect tree diseases and suggests to use it on natural populations. Real Time PCR, it is possible to find a specific organism in a "mixture of DNA" constituted by plant tissue and other micro-organisms that usually live into the host. It would be possible to identify initial colonization by harmful fungal parasites and particularly those having a long latency phases, including decay fungi, without showing any symptom.

Key words

Mycoflora, real-time PCR, tree diseases

Biography

Nicola Luchi received his degree in Forestry at the University of Florence in 2000. He continued his studies in Florence and received PhD in Plant Pathology in 2004. Since 2001 he was working at the Department of Agriculture and Biotechnology, University of Florence. His main studies are focused on fungal pathogens of forest

trees and particularly the use of molecular approaches to study the fungal populations and to detect the early stages of fungal colonization.

Paolo Capretti is full professor in Forest pathology and currently works at the Department of "Biotechnologie Agrarie" (DiBA) of the University of Florence. Graduated in Forestry (1976), Assistant professor in Silviculture (1976). Grant at the Forest Pathology Institute, University of Florence (1977). Researcher in Forest Pathology (1981), Associated professor (2000) and Full professor in Forest Pathology (2004).

Main scientific interest are in forest pathology: fungal epidemiology of *Heterobasidion annosum*, *Phytophthora* spp., *Sphaeropsis sapinea*; effects of climate changing on forest ecosystems, genetic variability of fungal population, insect-fungus relationships, and biological control. He is co-author of original approaches for epidemiological investigation on forest trees diseases and molecular methods for quantitative PCR.

Member of the IUFRO Working Parties: "Phytophthora diseases on forest trees", "Root and Butt Rots", "Foliage, shoot and stem diseases"

TREES AND STRUCTURAL SOIL AS A STORMWATER MANAGEMENT SYSTEM IN
URBAN SETTINGS
TREE DEVELOPMENT AND CONTRIBUTION

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Consequences of water pollution caused by runoff include beach closure, destroyed wildlife habitat, unsafe drinking water, fish kills, and many other severe environmental and human health problems (EPA, 2004a). Storm water management systems in urban settings need improvement, since they are space consuming and expensive, but necessary.

Trees can play an important role in stormwater management in urban and urbanizing areas. We are evaluating the use of structural soils (a gravel-soil mix, offering a high load-bearing capacity yet still having large voids which can be penetrated by roots (Bassuk, et al., 1998) for stormwater management . Thus structural soil has the potential to combine a parking lot with healthy trees and an integrated stormwater management facility (SWMF) In our study we determine the contribution of tree roots to storm water removal from a structural soil reservoir. Water uptake capability as well as root distribution in fluctuating water tables as would be present in a structural soil SWMF, are also being evaluated. Three tree species (*Quercus bicolor*, *Fraxinus pennsylvanica*, and *Platanus x acerifolia*; five replications) were planted in 25-gallon containers. In 2005 and 2006, three different water regimes were carried out which match slow, medium and fast infiltration rates of subsoils. Water uptake was measured from a closed container system to determine the ability of trees to remove water from a SWMF under these conditions. To evaluate the improvement in infiltration rate of subsoils when penetrated by roots, we measured the effect of root penetration into subsoil compacted at three rates for *Acer rubrum* (red maple) and *Quercus velutina* (black oak).

Information of tree development in and its contribution to a stormwater management system will help urban planners make better informed decisions concerning SWMF using structural soil and trees.

Key words

Stormwater management, street trees, urban runoff, water uptake.

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Biography

Julia Bartens grew up in Lower-Saxony, Germany. She did her undergraduate studies, in horticulture, at the University of Hannover, Germany. In 2003, she studied one year abroad at the Alabama A&M University in Huntsville. She finished her undergraduate studies, with her Diploma, in 2004 and started her Master's at Virginia Tech in January 2005.

She gained practical experience during internships and jobs, including at the Botanical Garden in Hannover Germany, two landscaping companies, assistant of the Greenhouse Manager at A&M University in Alabama, and during the summer employment for the landscaping division of the City of Huntsville, Alabama.

Susan D. Day is on the faculty in the Forestry Department at Virginia Tech, in Blacksburg, Virginia USA. Her areas of expertise include soil/root interactions and tree preservation during construction. Current research includes evaluating a tree-based stormwater management system using engineered soils, effects of construction fill on existing trees and deep planting effects and treatments. She has a B.A. in Philosophy from Yale University, a Master's Degree in Horticulture from Cornell University, and a Ph D. in Forestry from Virginia Tech.

Roger Harris grew up in Georgia, USA and holds B.S. degrees from Georgia Tech and Michigan State University. After working in the nursery and landscape industry for 12 years, he obtained an M.S. in Horticulture from the University of Florida and a Ph.D. in Horticulture from Cornell University. He has been on the Horticulture faculty at Virginia Tech in Blacksburg, Virginia since 1993, where he

is currently Associate Professor. Primary research interests are currently tree establishment and related urban forestry issues.

Poster session

ENVIRONMENTAL CONDITIONS AND CYPRESS CANCKER DISEASE IN TUSCANY EVALUATED BY GIS TECHNOLOGY

Matteo Feducci, Gianni Masi, Paolo Capretti, Department DIBA – Sect. of Vegetal Pathology, University of Florence, Florence, Italy

MONITORING AND BIOMONITORING OF URBAN AIR POLLUTION IN FLORENCE, ITALY

Cristina Nali, Alessandra Arancini & Giacomo Lorenzini, Department "Giovanni Scaramuzzi", University of Pisa, Pisa, Italy

IDENTIFICATION OF QUALITY STANDARDS FOR NURSERY STOCK PRODUCTION

Francesco Paolo Nicese, Francesco Ferrini, Tommaso Pasquini, Department DOFI, University of Florence, Florence, Italy

THE HORSE CHESTNUT LEAF MINER IN TUSCANY

Tiziana Panzavolta, Department DIBA, University of Florence, Florence, Italy, Giuseppino Sabbatini Peverieri, Lorenzo Marziali, CRA - ISZA, Florence, Italy, Luigi Buonomo, Riziero Tiberi, Department DIBA, University of Florence, Florence, Italy

INFESTATION BY CERAMBYX SPP., ON QUERCUS ILEX IN FLORENCE

Fabrizio Pennacchio, CRA - ISZA, Florence, Italy, Riziero Tiberi, Department DIBA, University of Florence, Florence, Italy

INSECTS AND PLANT-PATHOGENIC FUNGI IN THE DECLINE OF TREES IN URBAN AND SUB-URBAN AREAS IN ITALY

Giuseppino Sabbatini Peverieri, CRA - ISZA, Florence, Italy, Tiziana Panzavolta, Department DIBA, University of Florence, Florence Italy, Leonardo Marianelli, C.R.A. - ISZA, Florence, Italy, Alessandro Ragazzi, Riziero Tiberi, Department DIBA, University of Florence, Florence, Italy

RISVEM: A MULTISCIPLINARY RESEARCH PROJECT

Giovanni Sanesi, Raffaele Laforteza, Giuseppe Colangelo, Department DSPV, University of Bari, Bari, Italy, Alberto Abrami, , Department of Agricultural and

Land Economics, University of Florence, Florence, Italy, Riziero Tiberi, Department DIBA, University of Florence, Florence, Italy, Fabio Salbitano, Italian Academy of Forest Science, Florence, Italy, Francesco Nicese, Francesco Ferrini, Department DOFI, University of Florence, Florence, Italy, Gabriele Villa, Demetra coop, Besana Brianza, Italy

METHODS OF URBAN GREEN SPACES INVENTORY IN RISVEM PROJECT

Giovanni Sanesi, Raffaele Laforteza, Giuseppe Colangelo, Department DSPV, University of Bari, Bari, Italy, Gabriele Villa, Stefano Fiorillo, Cristian Rancati, Demetra coop, Besana Brianza, Italy

RF-ID (RADIO FREQUENCY IDENTIFICATION) TECHNOLOGY FOR TREES MANAGEMENT IN URBAN CONTEXT – RISVEM PROJECT

Gabriele Villa, Stefano Fiorillo, Cristian Rancati, Demetra coop, Besana Brianza, Italy

THE OCCURRENCE OF FUNGAL DISEASES ON PINE TREES AND THEIR RELATIONSHIP WITH BARK BEETLES

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