

Society of American Foresters



International Forestry Working Group
Newsletter

Working Group B3

June 2014

Thanks to everybody who sent in an article for this newsletter. Our next issue will be in September. I hope as you work on your international projects you consider writing a short article for the International Forestry Working Group newsletter.

- Blair Orr, IFWG Chair
(bdorr@mtu.edu)

Contributed Articles

Forestry Practices in the Yucatan of Mexico – Rapid Assessment Report

**Matthew Bare, Erin Beasley, Gabriel Chait - Yale School of Forestry
May 2014**

The tropical forest of the Maya landscape in southern Mexico, Guatemala, and Belize represent an epicenter of regional biodiversity, human history, and sustainable timber production. In the Yucatan region of Mexico, local communities are world recognized as local resources managers, practicing sustainable forestry with diverse community participation and benefits. In the spring of 2014, a small team of graduate students from the Yale School of Forestry coordinated with a local forest community and an international NGO to assess the conservation practices of a community forestry operation. Rapid assessments in conservation are a vital tool to assess forest management practices and conservation potential in tropical regions. The Yale School of Forestry has developed a “rapid assessments in forest conservation” methodology to evaluate conservation practices in tropical forest landscapes; previous assessments of the past decade have included native forest restoration in Bahia, Brazil, national park management in Ecuador and Costa Rica, and watershed management in Panama.

The Yucatan, Mexico forest assessment analyzed the potential use of a suite of reduced impact logging (RIL) techniques within an *ejido* forestry operation in the province of Campeche. Our team was interested in investigating the possible benefits of these techniques to improve overall

forest management within the following criteria: minimization of ecological damage and carbon emissions from forestry operations; maintenance of forest health, structure and composition; and maximization of the long-term value of the forest resource for *ejido* members. Our analysis included an overview of biophysical conditions in the Yucatan region, common silvicultural practices, and regeneration of commercial species. In our site visit, we observed areas of timber harvest to identify existing regeneration patterns and predict likely obstacles and costs to implementing RIL techniques. We also spoke with several foresters and community members involved in forest operations and use. Our analysis incorporates this information with current practices in reduced impact logging and tropical forest management.



Some trees with hollowed trunks are abandoned in the forest. RIL techniques to test for wood quality can help to reduce waste and minimize complications in permitting.

Our analysis found that the overall impact of logging in this forest is low; logging is selective, canopy openings are small, collateral damage is low, and roads and skid trails are minimal. Years of research from David Bray of Florida International University describes the community forests of Mexico as a global example of low deforestation and sustainable management of forests resources. Indeed, community members in the *ejido* of our rapid assessment were actively involved in the daily operations of forestry practice. However, the most important issue facing the long term health of community forest operations is the slow growth and lack of regeneration of commercial species, likely due to the absence of large openings necessary for growth of light demanding species. Decades of research from forest scientists such as Laura Snook and Luis Alfonso Argüelles in Quintana Roo and elsewhere in the region describe big leaf mahogany as a light demanding species dependent on large scale landscape disturbance of hurricane and fire. These patterns were evident in the forest area of our rapid assessment visit, where yield of commercial species were low, canopy openings were small, and regeneration of commercial species was low. Enrichment planting in narrow skid trails was observed to be ineffectual, and log landings were too small to ensure regeneration and growth of light demanding mahogany and Spanish cedar.



Big leaf mahogany produces winged seeds in February - March.



Enrichment plantings (Spanish cedar) are rarely productive in the shade.

However, implementation of selected RIL techniques could facilitate retention of forest carbon stocks while also encouraging regeneration of commercial species. RIL techniques could reduce waste wood and better manage roads and skid trails with road planning and harvester training. Selected log landings could be increased in size to ensure greater growth and regeneration of commercial species. The greater biomass removal associated with the widening of these

clearings can be compensated with improved growth of regenerated and enriched species from weeding and liberation cuttings.

Finally, in the larger landscape context, agricultural use and road conditions are an important component of forest management in rural communities such as these. The Maya forest region is a seasonal dry tropical forest, with the majority of the 1,000 -1,500 mm annual precipitation falling in the months of July - December. In some communities, impassable roads make timber harvest impossible in the wet season. In addition to lost revenue, restricted access also reduces the opportunity to practice active management techniques such as weeding, liberation cuttings, and patch clearings. Roads and access also impact agricultural and agroforestry practices in forest areas. Mexican land use zoning restricts traditional shifting cultivation practices known to the Maya (*milpa* systems) that produced periodic forest clearings and historically favored light demanding species such mahogany and cedar. We recommend that current policy makers consider land use options of tree fallow management and agroforestry systems that facilitate greater tree cover, timber management, and a diverse range of traditional crops.



Forestry practices in the region are already low impact. Here a modified tractor-skidder hauls a log to a landing area.

Our team's rapid assessment is placed in the context of the implementation of improved forest management techniques as a component of the REDD+ mechanism. In Mexico, as in several tropical countries, improved forest management using practices such as reduced impact logging have the potential to provide multiple benefits for forest carbon, biodiversity, and rural livelihoods. Mexico is also a leader in developing several nationally based payment for environmental service programs. However, our analysis finds that while payments for environmental services have great potential in assisting tropical forest conservation, they should consider the local forest context and the landscape conditions crucial for regeneration of commercial species.

Saving Cutover Tropical Forest

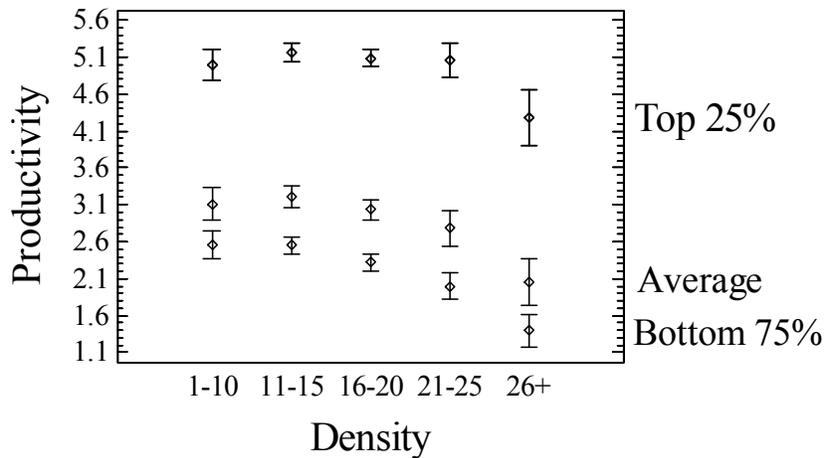
Frank H. Wadsworth

Tropical forests selectively logged but never deforested are vast and herein termed “cutover”. With timber recovery thought to require a century or more these forests are neglected. However, unlike secondary forests, cutover forests retain much of their former tree diversity. Within them may be immature trees of timber species with erect trunks: “crop trees” for a next timber crop. For this an over-estimate of slow growth is coming to light. Not only are smaller trees accepted by processors but increased tree growth in such forests can greatly shorten recovery time.

To accelerate crop tree growth in cutover forest a recent study (Wadsworth, Bryan, & Figueroa-Colon 2010) compared 24-year “productivity” of 1,396 crop trees of 12 valuable regional timbers in Puerto Rico’s Subtropical Wet Forest. Tree productivity was defined as mean annual tree increment in stem basal area during 24 years, expressed as a percent of mean tree stem basal area during the period. The study found, as shown by the middle row of symbols in Figure 1, that in abandoned cutover forest typically with basal area of more than 26 m²/ha, even a selected crop tree would have a productivity averaging no more than 2.1 (±0.6 standard error) percent. Were it to continue to produce this percentage per year, a 20 cm dbh (bole diameter outside bark at 1.4 meters above the ground) crop tree would require at least 38 years to attain 30 cm dbh and more than 100 years to attain 60 cm dbh. This supports the common perception of unimpressive productivity in abandoned cutover tropical forest.

The study showed ways to improve the selection of crop trees for higher productivity. Beside obvious bigger tree dbh, closer to maturity, higher productivity comes also with larger crop tree crown size and more overhead illumination (canopy position). The article further postulates that it’s discovered skewed occurrence of tree species on the mountainside relative to microsites (soil surface contour, steepness, and aspect) may, for an as yet unknown reason, also mean higher productivity where the trees of each species are concentrated.

Despite these gains, a need for crop tree liberation was still the main object of the study, how much and for what gain? To determine this, crop tree productivity was compared by the forest density surrounding each tree, approximated by a count of trees not offset by a prism, converted to forest density of m² of basal area per hectare. As shown in Figure 1, by simply reducing surrounding forest density to 20 m²/ha or less, an average crop tree of 20 cm dbh would produce 3.1±0.3 percent annually in basal area, capable of attaining 30 cm in 27 years (11 less) and 60 cm dbh in 73 years (more than 27 less). Figure 1 shows forest of 20 m²/ha to be a benchmark of post-liberation upper forest density around crop trees in this and possibly other cutover forests. Figure 1, with upper and lower rows of symbols for the 25 percent highest crop tree producers and the 75 percent lowest, respectively, shows that some 170 crop trees with all of these stimuli were producing at 5.1±0.3 percent per year, a percentage capable of growing from 20 cm dbh to 30 cm in 17 years and to 60 cm in 44 years. Cutover tropical forests of basal area denser than 20 m²/ha where potential crop trees are adequate should be liberated without further proof. Those persons responsible must learn, without continuous use of a prism, to recognize forest density of 20 m²/ha.



	Trees (n)				
Top 25%	58	65	56	113	59
Average	231	259	223	451	232
Bottom 75%	173	194	167	338	173

Literature cited

Wadsworth, F. H., B. Bryan, and J. Figueroa-Colon 2010. Cutover tropical forest productivity potential merits assessment. *Bois et Forets des Tropiques* **305**(3):33-41.

A Bahama Story

By Dan Nolan

I got a phone call one day in late March last year from Joel Holtrop, former Deputy Chief of the US Forest Service, now retired and on the board of directors of Global Parks. Joel asked if I would be willing to spend the month of April in The Bahamas working on a Global Parks project. The next thing I knew it was April 8 and I was on a 6 am flight to Houston with connection to Nassau, New Providence, capital of the Commonwealth of the Bahamas.

As I rode into town from the airport my taxi driver pointed out the resort development, road construction and other infrastructure projects provided by a \$1.2 billion Chinese investment in the country. Later, after checking into the Towne Hotel, I met my new teammates Phil Whitfield and Bill Henwood along with Bill's wife Karyn.

Bill is a park planner retired from the Parks Canada Agency. Our assignment is to work



(L-R) Lakeisha Anderson (BNT), Dan Nolan, Bill Henwood, Phil Whitfield, David Knowles (BNT)

with the Bahamas National Trust to develop plans for the expansion of two national parks and the creation of a new national park on Grand Bahama Island. Phil is a retired park planner from British Columbia's BC Parks Agency and is also Director of the Canadian Cave Conservancy. Phil will remain in Nassau to prepare management plans for two national parks on New Providence Island and will lend his cave expertise for one of the parks that Bill and I will work on. The Bahamas National Trust (BNT) is a non-governmental organization charged by an act of Parliament to build and manage the national park system of The Bahamas.

On our first morning, Bill, Phil and I were picked up by a BNT staffer and driven to The Retreat, the BNT headquarters. We spent the morning meeting with BNT leaders to talk about our assignment to develop proposals for expanding the Lucayan and Peterson Cay National Parks and for creating a new national park on the north shore of Grand Bahama Island. Then we flew to Freeport on Grand Bahama Island and settled in to our house at the BNT's Rand Nature Center National Park where we will spend the next four weeks.

The Commonwealth of the Bahamas consists of more than 700 islands extending across 600 miles from off the southeast coast of Florida to just north of Cuba. It was a British colony beginning in 1718 and achieved independence in 1973. It has a population of 347,000, mostly concentrated in Nassau. Its economy is largely based on tourism.

Grand Bahama, in the north of the island chain, is one of the Bahamas largest islands: 93 miles long by 12 miles wide. Its highest point is 40 feet. The Little Bahama Bank extending along the north side of the island is a broad area of shallow water averaging less than 23 feet in depth. These banks and coastal mangrove forests hold a rich biodiversity of fish and crustacean species. Fly fishing for bonefish is very popular. The south shore of the island is bordered by a narrow coastal shelf of fringing reef. The vegetation of the island's interior consists largely of Caribbean Pine (*Pinus caribaea* var. *bahamensis*), with an understory of low palmetto (*Thrinax morrisii*). The pine forests were extensively logged in the 1950's. The island's substrate is limestone displaying karst topography and one of the most extensive cave systems in the world including a lengthy network of underwater caves.

Over the course of the next month Bill and I spent our time reviewing relevant literature; visiting the proposed park areas on foot, by truck and by boat; and meeting with a variety of stakeholders who had interest in park plans. We snorkeled with a BNT science team inventorying coral reef conditions and the aquatic biota of mangrove estuaries. One day was spent on a Boston Whaler cruising the north shore shallow bank waters to conduct a bird survey with a local ornithologist. We saw lots of turtles, bonefish, rays, and an occasional small shark.

The purpose of our project was to assist the Government of the Bahamas in meeting their goal of setting aside at least 20 percent of its coastal marine waters as marine protected areas and 10 percent of its terrestrial area in national parks by 2020. These goals were developed to meet the Government's international obligations under the Convention on Biological Diversity.

We produced proposals for three national parks.

Lucayan National Park, currently 40 acres in size, sits on the entrance to a vast underwater cave system. It includes a small segment of a mangrove bordered tidal creek, and extends to the coast. Our proposal called for expanding the park to approximately 2,700 acres of which 950 acres would be terrestrial and 1,750 acres would be in marine ecosystems. Its expansion includes protection for the entire mapped cave network, the full length of the tidal creek ecosystem, additional shoreline, and large area of ocean.

Peterson Cay National Park, at 1.5 acres, is a windswept, sparsely vegetated, limestone islet that lies less than a mile from the south shore of Grand Bahama Island. It is an important nesting area for seabirds and supports a globally significant nesting colony of Bridled Terns. We proposed expanding the park to encompass nearly two square miles of marine ecosystems and fringing reef that surround the island.

Our proposal for the new North Shore National Park encompasses a total of 445 square miles which includes 342 square miles of Little Bahama Bank, mangrove wetlands, and tidal creeks, that provide critical spawning and nursery habitat for numerous ecologically and economically important marine species. It also includes 103 square miles of terrestrial habitat consisting mostly of pine woodlands.

Information on these proposed parks can be found on the Bahamas National Trust website at : <http://www.bnt.bs/m1893/Proposed-parks/Grand-Bahama-Proposed-Parks>

Of course we found time for sightseeing and enjoying the beautiful beaches and local culture. Our very gracious and enthusiastic BNT host, Ellsworth, introduced us to the Rake and Scrape music scene at the Cool Breeze open air, locals hangout. On a Wednesday night he brought us to the famous Smith's Point fish fry where we had snapper, pigeon pea rice, mac and cheese and the traditional Guava Duff, along with a crowd enjoying wonderful music.

The mission of Global Parks is to:

Strengthen national systems of protected areas, and address other natural resource management needs worldwide by mobilizing a cadre of volunteer veteran conservation professionals who transfer knowledge, experience, and proven practices.

Until recently, volunteers were recruited mostly from the ranks of retired National Park Service professionals. Joel Holtrop is the first person from the US Forest Service to serve on their board of directors, and I was one of the first volunteers from the Forest Service to participate in a Global Parks project. More information on Global Parks programs and opportunities can be found at the following location: <http://globalparks.org/site/>

The author is retired from the US Forest Service and lives in Hot Sulphur Springs, CO. A version of this article first appeared in the Spring 2014 edition of The Rendezvous, the newsletter of the Rocky Mountain Forest Service Association.

Fire Management Visit to the Kingdom of Jordan

Carl Schmidt, USFWS

In late 2013, I had the opportunity to visit Jordan and deepen my understanding of a fire management issue about which I thought I knew well: fire danger.

I visited, assessed, and developed recommendations for the management of fire at three reserves managed by the Royal Society for the Conservation of Nature (RSCN), Dibeen, Ajloun and Yarmouk. These site visits included a general orientation, examination of old fire sites, and discussions on suppressing fires and post-fire rehabilitation. A training workshop with the RSCN, the Forestry Department/Ministry of Agriculture, Civil Defense, and the Environmental Rangers was held to assess fire suppression preparedness and practices, safety procedures, and interagency cooperation. It was also an opportunity to introduce the idea of using fire as a tool to reduce the likelihood of fire. I gave a presentation on fire, both fire suppression and use, in the southern U.S.



Meeting with the local ecologist at a 27 year old fire scar, Dibeen Forest Reserve

The different Jordanian agencies work well together on wildfire; after the workshop there was mutual agreement that annual cooperators meetings should be held. Jordanian thought holds that fires diminish biological diversity, which runs against general opinions on the type of Mediterranean ecosystem present there. Discussions on using fire to both improve biological diversity as well as reduce fire danger were interesting and productive. Further programs such as this one, with fire specialists from various parts of the world interacting, are an important step in advancing fire management in Jordan.

Obviously, there are many benefits to seeing a new place and its people. Ironically, I may have learned more about fire danger by sharing my knowledge with Jordanian counterparts than they did. I'm comfortable with fire danger as it is standardized and practiced here in the U.S.; researching other approaches to fire danger and trying to adapt them to the conditions in Jordan required me to look at fire danger differently than I do in my day-to-day work. For instance, the approach I recommended comes from Australia, and may have useful applications here in the U.S. Strangely enough, this Australian method has antecedents in the U.S. Investigating what I thought I already knew led to more depth of knowledge, which I was able to develop with DOI-ITAP.

Modified from the Department of the Interior, International Technical Assistance Program, March 2014 Newsletter

Field Notes

No field notes in this issue.

Join an SAF Working Group

As a member of the Society of American Foresters you can join SAF working groups by going to the website:

<http://www.safnet.org/workinggroups/join.cfm>

If you want to join this working group, we are B3, the International Forestry Working Group. Please pass this information along to SAF members who might be interested in joining a working group – especially B3, the International Forestry Working Group.

SAF World Forestry Committee News

The SAF World Forestry Committee is very pleased to announce that the 2014 Gregory Award winner is Tizezew Shimekach Sisay from Bahirdar, Ethiopia. Ms. Sisay has a background in forestry and economics and has worked extensively with community-based natural resource conservation efforts, with a focus on addressing the economic, social, and environmental challenges facing women. She hopes to explore and highlight how women can be the key to fostering environmental sustainability in Ethiopia and beyond.

The gracious support of the Gregory family and others who honor G. Robinson (Bob) Gregory and Ann Gregory's passion for assisting low-income countries to develop forest resources by contributing to the Gregory Fund will help Ms. Sisay attend the 2014 SAF Convention in Salt Lake City, Utah.

Pipa Elias, WFC chair
Danielle Watson, SAF Policy Associate

Announcements, Meetings and Events



General Information: <http://www.xcdsystem.com/saf/site14/>

The registration link is in the right hand column.

World Congress 2014



XXIV IUFRO World Congress 2014 – Salt Lake City, UT, United States, 5-11 October 2014
"Sustaining Forests, Sustaining People: The Role of Research"

Congress homepage: <http://www.iufro2014.com/>

Twitter: <https://twitter.com/iufro2014>

Facebook: <http://www.facebook.com/iufro2014>

The IUFRO meeting will include: **Providing Ecosystem Services under Climate Change - Community of Practice of Forest Decision Support Systems**

Abstract: With populations and economies growing worldwide the demands on forest resources increase and the sustained supply of ecosystem services becomes crucial. Through the growing public participation in decisions about the management of natural resources, new demands have emerged for tools that support understanding of environmental issues, developing and evaluating alternative management options, and projecting the consequences of different courses of action. Decision Support Systems (DSS) have proven to solve ill-structured decision problems by integrating database management systems with analytical and operational research models, providing various reporting capabilities. This includes not only fully integrated Decision Support Systems but also other tools (e.g. simulators) that may help providing ecosystem services under climate change. The members of the Community of Practice on Forest Decision Support Systems (www.forestdss.org) provide expertise in applying models, methods, techniques and frameworks for developing and applying DSSs. A large repository of DSS projects has been described in a semantic wiki, which allows drawing lessons learned from various case studies. The session will recommend best practices for DSS based on the findings in the context of the congress theme.

Chair:

Harald Vacik, Ass. Professor at the Institute of Silviculture, University of Natural Resources and Life Sciences, Vienna, deputy chair of IUFRO 4.04.03 - Information management and information technologies, harald.vacik@boku.ac.at ,
<http://www.wabo.boku.ac.at/vacik.html?&L=1>)

Co-Chairs:

Jose Borges, Professor at the School of Agriculture, Technical University of Lisbon, FORSYS Action Vice-Chair , IUFRO 4.04.04 joseborges@isa.utl.pt

Jordi Garcia-Gonzalo, researcher at the Forest Research Centre, School of Agriculture, Technical University of Lisbon. Tapada da Ajuda, 1349-017. Lisbon. Portugal. Currently deputy coordinator of the IUFRO unit 4.04.06 – Nature conservation planning.

Ljuisk-Ola Eriksson, Professor, Department of Forest Resource Management, Swedish University of Agricultural Sciences, FORSYS Action Chair, Ljuisk.Ola.Eriksson@slu.se

Description of the session in relation to the Congress themes:

The session will explore how decision support tools are currently used for a sustained provision of ecosystem services under climate change. In forest management decisions need to be taken at various scales, from stand to regional and national scales. Tactical and strategic decisions as well as different decision-making environments typically require specific decision processes. The impacts of climate change will influence forest management worldwide. Several studies point to the warming of winters and to the increase of both the length of the dry season and the frequency of extreme events like forest fires. These changes will impact on growth and survival of plants as well as their geographical distribution. Thus empirical models are often inadequate as means to support decision-making under climate change. In addition, catastrophic events are likely to increase. Thus, forest managers need new tools that may increase the efficiency and the effectiveness of forest management under changing environmental conditions. Decision Support Systems (DSSs) are designed for a particular problem, supporting just a specific decision making phase, or they may be general and adaptive per se to fit several decision problems and processes. The different issues emerging in forest management planning stimulated the development of DSS and increased the demand to integrate various techniques, models and methods in a holistic and flexible manner. The EU funded COST Action FORSYS (FP0804) provided an overview about the experiences in developing and applying DSSs for forest management. A network of more than 120 experts from 26 countries in Africa, America, Asia and Europe addressed topics such as the a) the architecture and implementation of DSS, b) the models and methods to support decision-making in DSS, c) the knowledge management techniques in DSS and d) the participatory processes to be supported by DSS. As the COST Action ended by April 2013 the network of experts serves as a solid foundation for a Community of Practice on Forest Decision Support Systems (CoP Forest DSS). This platform supports technological innovation and collaboration between research partners in order to share experiences on DSS development worldwide. It will continue with the activities started and allow improving the knowledgebase continuously.

The session will therefore demonstrate how models and methods are designed to address the challenges in covering different spatial and temporal scales in DSS and addressing the efficiency of forest management strategies on the sustained provision of supporting, provisioning, regulating and cultural ecosystem services. Additionally the concept of functional diversity will be reviewed in order to understand the role of species richness in providing ecosystem services. The scientific talks will review techniques to quantify the impacts of biodiversity loss, and to evaluate possible responses to improve the resilience of forest ecosystems. The existing approaches to quantify the threats to forest biodiversity – including deforestation, degradation, unsustainable use, invasive species, and climate change will be screened. The presentations will

allow addressing the challenges in achieving a balance between biodiversity conservation and sustainable utilization of forest resources. For the proposed session we have institutional support from IUFRO Division 4 in general and the IUFRO Units 4.02.07, 4.03.00, 4.03.03, 4.04.04, 4.04.06, 3.04.01, as well as Society of American Foresters Working Group Land Use Planning, Organization and Management (SAF-E2), the EURO Working Group of Operations Research in Agriculture and Forest Management and Section on Energy, Natural Resources, and the Environment (ENRE) of the Institute for Operations Research and the Management Sciences (INFORMS) and the European Land Use Institute (ELI).



Register Now for

World Forestry Center International Educators Institute July 13-19, 2014

“The World Forestry Center International Educators Institute is the premier field-based professional development program for experienced leaders seeking to advance effective teaching and learning about the world’s forests.”

Join us in Portland, Oregon this summer **July 13-19, 2014** as we explore the majestic mountains and fantastic forests of the Pacific Northwest with new colleagues and friends from all over the world. The World Forestry Center International Educators Institute (IEI) is a unique 7-day professional development course and forest study tour for experienced leaders in education, research, natural resource management, and strategic communication who are committed to advancing effective teaching and learning about the world's forests.

Since 1996, we have hosted active leaders in government, business, associations, NGO's, universities, local schools, museums and science centers from 45 countries and 36 states.

We offer world class scenery, special access tours, unforgettable interviews with local people, excellent meals, and comfortable accommodations.

Applications are accepted until course is full. Please contact Rick Zenn at 503-488-2137 or rzenn@worldforestry.org for more information.

A free color brochure, course details, and easy online registration are available:

<http://wfi.worldforestry.org/index/international-fellowship/international-educators-institute.html>

DSSF_M 2014

2nd International Scientific Conference on
“IMPLEMENTATION OF DSS TOOLS
INTO THE FORESTRY PRACTICE”

focusing the

**Uncertainty, risk and the human
dimension in adaptive
forest management
under climate change**

organized by

Technical University in Zvolen, Slovakia
University of Lisbon, Portugal

co-organized by

Mendel University in Brno, Czech Republic
Forest Research Institute, Poland
University of West Hungary, Hungary

and placed

at Tennis Hotel, Zvolen, Slovakia
in September 18th – 20th, 2014.

**FIRST INFORMATION
CALL FOR PAPERS**



INVITATION

After 2 years we would like to invite you to the Second International Scientific Conference on Implementation of DSS Tools into the Forestry Practice focusing on topics related to uncertainty, risk and the human dimension in adaptive forest management under climate change. The conference will take place at the Tennis Hotel, Zvolen, Slovakia.

The aim of the conference is to present and discuss the recent problems and challenges, the existing approaches and tools supporting the decision making process of forest managers, researchers, policy makers and stakeholders and to increase the knowledge on the complexity of decision support in forestry and landscape management planning.

This material contains brief information about the conference, and a pre-registration form. Potential participants are invited to present papers and/or posters. This invitation welcomes contributions as poster or oral presentation from different fields and addresses participants that are interested to learn about the recent developments in DSS. If you are interested, you are kindly requested to fill the early registration form at the conference webpage <http://gis.tuzvo.sk/dssfm2014/> by **April 30, 2014**.

We look forward to our meeting at the Tennis Hotel at the **IMPLEMENTATION OF DSS INTO THE FORESTRY PRACTICE** conference.

ORGANIZERS

Technical University in Zvolen, Slovakia

University of Lisbon, Portugal

CO-ORGANISERS

Mendel University in Brno, Czech republic

Forest Research Institute Raszyn, Poland

University of West Hungary Sopron, Hungary

PARTNERS

IUFRO, Division 4

Forest DSS Community of Practicioners

LANGUAGES: Slovak, Czech, English (simultaneous interpreting)

TIME AND PLACE OF THE CONFERENCE

September 18 – 20, 2014

Tennis Hotel, Zvolen, Slovak Republic (www.hoteltenis.sk)

SCIENTIFIC TOPICS

- Needs in forest monitoring and modelling to support decision making
- Adaptive forest management – planning regarding uncertainty and risk
- Knowledge creation, management and sharing
- The human dimension of decision making (group and participatory processes, policy relations and scenario modelling)
- Precision forestry and landscape management
- Mitigation of climate change impact

PROCEEDINGS

Papers for the proceedings are supposed to be reviewed by two independent reviewers before publication. Accepted papers will be published in the conference proceedings and indexed in SCOPUS and Thomson Reuters (Conference Proceedings Citation Index) databases.

CONFERENCE FEES

The first circular does not contain information about fees as they have not been settled. The negotiations with sponsors are still in progress. However, attempts will be made to keep the fees as low as possible.

ACTIVITIES PLANNED

- Scientific papers of world and home experts,
- Poster presentation,
- Workshop
- Sponsors exhibition,
- Excursion,
- Council Meeting of Community of Practice on Forest Management Decision Support Systems
- Social activities and program for spouses.

WORKSHOP

The aim of the workshop is the introduction, presentation and (practical) demonstration of the most important functions of well-developed and operationally used DSS – especially for participants with a forestry practice background from Slovakia and other central Europe countries – Czech Republic, Hungary and Poland. The workshop will be composed of short presentation of existing forestry DSS systems, verification of their functions verification by participants based on a common simple data set, discussion.

IMPORTANT DEADLINES

- 30.04.2014** Deadline for early registration
31.05.2014 Deadline for abstract submission
30.06.2014 Deadline for registration and notification of abstract acceptance
31.07.2014 Deadline for covering the conference fees
31.08.2014 Deadline for papers submission

PLACE OF THE CONFERENCE AND ACCOMMODATION

The accommodation will be managed by the Technical University in Zvolen.

CONTACT ADDRESS

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Organizers



Co-organizers



Recent Publications

The Instituto Tecnológico de Costa Rica has announced the publication of an electronic or digital version of the book:

Ladrach, William. 2013. Applied forest management for tropical and subtropical plantations.
Editorial: Instituto Tecnológico de Costa Rica, Colección: Ingeniería y Tecnología, Categorías:
Ecología aplicada. Costa Rica Size: 8.02 Mb
ISBN: 9789977662961

This is the English translation of the original text in Spanish published in paperback format by the Instituto Tecnológico de Costa Rica in 2010.

Check the following link for more information:
www.librouniversitariocostarricense.org
The price for the e-book: US10.00
ePublication with Adobe DRM

O'Neill, MK, SC Allen, RF Heyduck, KA Lomard, D. Smeal & RN Arnold, (2014)
Hybrid poplar (*Populus* spp.) adaptation to a semi-arid region: results from Northwest New Mexico (2002–2011). *Agroforestry Systems*, April, 2014. online:
<http://link.springer.com/article/10.1007/s10457-014-9694-5>.

Abstract: A provenance test was initiated in spring 2002 at the New Mexico State University Agricultural Science Center at Farmington to examine the adaptability of various hybrid poplar (*Populus* spp.) crosses to the high elevation, semi-arid conditions of this region of the Southwestern United States. Ten crosses of *P. deltoides*, *P. maximowiczii*, *P. nigra* and *P. trichocarpa* obtained from nurseries in the Pacific Northwest were grown in replicates (3 plots \times 16 trees) under drip irrigation programmed to match tree evapotranspiration (ET) rates. By the end of year 10, six crosses had maintained a 90% or higher survival rate and had an average wood volume of 246 m³ ha⁻¹. The *P. deltoides* \times *P. nigra* (*P.* \times *canadensis*) clone OP-367 surpassed a ten-year commercial target of 25-cm diameter at breast height (DBH) after eight seasons, and by the end of 2011 attained a DBH of 28.0 cm, height of 19.9 m and wood volume of 473 m³ ha⁻¹. Results suggest that hybrid poplar production is possible in this type of semi-arid environment using appropriate germplasm and drip irrigation regimes scheduled according to tree ET demand.

TROPICAL NOTES

Frank H. Wadsworth
International Institute of Tropical Forestry
USDA Forest Service
San Juan, Puerto Rico

PS Ashton on what can be done

Peter Ashton, 50-year veteran student of Asian tropical forests, after three pages of sound description wrote this final paragraph: “We visualize a world increasingly forced to face issues of shared concern, as climatic catastrophes increase in frequency and strength. It will be one in which the need to share experience and influence over the fate of our forests, temperate as well as tropical, in industrialized as well as developing economies, will grow. Willingness to share will grow as the mutual gains become increasingly apparent. Trusts rather than bureaucracies, in which local communities and states will have shared authority, will become responsible for management policy and oversight. Forest departments will have the skill and responsibility for management but with

oversight by specialists on behalf of the trusts. Specialists in climate, and the management of carbon stocks, biodiversity and other services – national and international – would serve in advisory capacity. And the cost of restoration would be shared. Dear reader, please offer us a more effective – and practical – scenario.”

PS Ashton and M. S. Ashton. Mixed dipterocarp forests of the Sunda lands. What can be done now with what is left? [Journal of Tropical Forest Science 26(2):163-165 2014]

Camcore International

Camcore, an entity of the Department of Forestry and Environmental Resources of North Carolina State University has been involved in pine tree improvement in the southern United States and the subtropics and tropics since the 1950's. Emphasis has been on *Pinus taeda*, *elliottii*, *radiata*, and *patula*. Recently other species have been studied as possible alternates should current favorites succumb to insects, diseases or difficulties with climate change. These species include *Pinus chiapensis*, *P. greggii*, *p. herrerae*, *P. tecunumanii*, and *P. maximinoi*. There have been tremendous advances in breeding strategy, seed orchard management, and vegetative propagation. However, technology changes are anticipated. Breeding or selecting for traits like fiber properties, drought and cold tolerance, and disease resistance are foreseen.

Gary R. Hodge, and William S. Dvorak. Breeding southern US and Mexican pines for increased value in a changing world. [New Forests 45(3):295-300 2014]

Brazil nut safe

Satellite images associated with ground truthing and harvest records made it possible to evaluate brazil nut abundance in the territories of three Kayapó indigenous communities in southeastern Amazonia. The evidence indicates that only about 30% of the source areas are being collected. In recent years collecting within this area ranges from 7 to 43% of the seeds produced, or but 2.5 to 12.7 % of the entire crop in their territories. Not only are the brazil nuts not threatened by present collecting intensity, but there should be opportunity for expansion to the benefit of livelihoods.

Maria Beatriz N. Ribeiro and others. Brazil nut stock and harvesting at different spatial scales in southeastern Amazonia. [Forest Ecology and Management 319:67-74 2014]

Epiphyte removal favors coffee

In a tree shaded coffee plantation in central Veracruz, Mexico the effect of epiphyte removal was determined. On average 727 epiphytes were removed per tree, including 48 species (20 bromeliads). Where epiphytes had been removed, coffee flowering rose 225% and fruiting 366%. Approximately 21 % of the removed epiphytes were in condition suitable for commercialization. The potential for monthly harvest of epiphytes foreseen is 1,421 plants per hectare.

Tarin Toledo-Aceves and others. Benefits and costs of epiphyte management in shade coffee plantations. [Agriculture, Ecosystems, and Environment 181:149-156 2013]

Tree-ring prospects in Africa

Rings in the wood of trees are important sources of information as to tree ages and growth. In the wet tropics the formation of definite tree rings is uncertain. The wood anatomy of 22 species of commercial trees of Central Africa was screened for the presence of tree-ring structures. Woods of 14 of the 22 showed tree-ring boundaries. The rings of four of five species tested were annual. Exactly dating each ring was impeded but differences in growth rates between and among species were apparent and of significance to prediction of timber yields.

Peter Groenendijk and others. Potential of tree-ring analysis in a wet tropical forest. A case study on 22 commercial tree species in Central Africa. [Forest Ecology and Management 323:65-78 2014]

Mangroves of Trinidad and Tobago

Anticipating coastline changes, satellite estimates and extensive ground-truthing of mangroves were made. Coverage was higher than anticipated. Mangroves have been impacted by land-use changes but also have overgrown freshwater marshes. On the west coast, 7,532 ha; on the east coast, 1,133 ha; on the south coast, 481 ha; on the north coast 0.3 ha; and on Tobago, 223ha.

Rahanna Juman and Deanesh Ramsewak. Status of mangrove forests in Trinidad and Tobago, West Indies. [Caribbean Journal of Science 47(2/3):291-304 2013]

Certification in the Cameroon

A study was made of six Forest Stewardship Council certified forest operations to determine the degree in building and maintaining a positive relationship between communities and logging companies. Results show that certification plays a key role in improved social exchange, reducing conflicting relations and reinforcing the social requirements of the forest law. There remains a need to improve the balance of power between the logging companies and the communities by reviewing top-down logging decisions.

R. Tsanga and others. What is the role for forest certification in improving relationships between logging companies and communities? Lessons from FSC in Cameroon. [International Forestry Review 16(1): 2014]

Large trees for carbon storage

At Paragominas before logging a forest had 187 trees >20 cm dbh per hectare. After logging the large trees (>60 cm) made up only 9% of the trees and yet nearly half of the above-ground biomass. Mortality of up to 40 % of the large trees during 8 years after logging offset the increased growth of the smaller trees. Recommended is reduced intensity of logging from 6 to 3 large trees per hectare and compensating payments for avoided CO² emission.

Plinio Sist and others. Large trees as key elements of carbon storage and dynamics after selective logging in the eastern Amazon. [Forest Ecology and Management 318:103-109 2014]

Birds and fragments

The influence of fragment size and land cover on the abundance, composition, and seed dispersal roles of bird species was studied in subtropical Australia. Fragments ranged from 1 to 139ha. A high proportion of forest is required for the persistence of the birds. Even small forest fragments are important bird habitat whether or not they are physically connected by vegetation. Surrounding forest cover had a greater effect on bird assemblages than fragment size. Rainforest cover within 200m of fragments was the main factor associated with abundances of birds.

Cath Morant and Carla P. Catterall. Responses of seed-dispersing birds to amount of rainforest in the landscape around fragments.[*Conservation Biology* 28(2):551-560 2014]

Trees and pasture soils

A study looked into water infiltration in soils of agrosilvopastoral systems in Central America. Considering the distance to the nearest tree, it was found that trees in pastures improved infiltrability. They reduce surface runoff from rainfall intensities higher than 50 mm/hour. Pastures are a rapidly expanding land use in Latin America and so the hydrological services of trees may be a viable option for mitigating the environmental impacts associated with land clearing.

L. Benegas and others. [*Agriculture, Ecosystems and Environment* 183:185-196 2014]

Pines and latitude

Most pines undergo a reproductive cycle that spans three years with two dormant periods. In the temperate zone pines many of the reproductive stages come to a halt with winter cold. In tropical pines reproductive development appears to be generally a continuous process with an indistinct first dormant period. With tropical pines pollen release exhibits asynchrony over an extended period. The length of the second dormant period is the same for both pines.

Danilo D. Fernando. The pine reproductive process in temperate and tropical regions. [*New Forests* 45:333-352 2014]

RIL effects on composition

In the Tapajos forest in Brazil logging produced increased densities of seedlings and saplings. The increase was greatest in plots with the most disturbances. The study recognizes recruitment of three groups, (1) the long-lived pioneers, *Bagassa guianensis* and *Jacaranda copaia*, (2) the partially shade tolerant *Hymenaea courbaril*, *Dipterix odorata*, and *Carapa guianensis*, and (3) totally shade tolerant *Symphonia globulifera* and *Manilkara huberi*. Post-logging heterogeneity of microenvironments is needed for sustained management.

Gustavo Schwartz and others. Disturbance level determines the regeneration of commercial tree species in the eastern Amazon. [*Biotropica* 46(2):148-156 2014]

Multiple values in India

A comparison was made in 24 Joint Forestry Management Communities of the value of outcome in timber alone versus that with social benefits. In only 12 was the combined timber and social values that won. In 8 the single timber outcome was the best. Limitations in the capabilities of communities to develop the social benefits affected the outcome.

Prasant Kumar and others. Assessng forest management outcomes: A multivariate approach. [The Indian Forester 40(3):230-237 2014]

Rice and wheat agroforestry yield

A study in India compared the yields of rice and wheat under shade of *Eucalyptus tereticornis*. The rice yield in the open was 2.34 t/ha and under the *Eucalyptus* 1.99 t/ha, a reduction of 15%. For the wheat the yield in the open was 2.64 t/ha and under the *Eucalyptus* it was 1.49 t/ha, a reduction of 44%. Assuming comparable shade, in forester's terms, the rice is more tolerant than the wheat.

S. K. Verma and B. S. Rana. Effect of light intensity on paddy and wheat grain yield under *Eucalyptus tereticornis* Sm. Based Agri-silvicultural System. [The Indian Forester 140(1):23-28 2014]

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