

European forests might not be realizing their full potential

Frankfurt/ Germany, November 17th 2017. European forest managers can have their cake and eat it, because according to a new study maximizing timber production in a forest does not necessarily have to come at a cost of reduced species diversity or the capacity to regulate climate change by the same forest. However, as the international research team, among them scientists from Senckenberg and the University of Leipzig, point out, most European forests fall well below their possible maximum levels of these three capacities. The study was published recently in “Ecology Letters”.

Throughout Europe forests are usually managed with one or two major objectives. These are typically timber production, climate regulation or conservation. But this focused approach might not be necessary as trade-offs among different ecosystem processes that contribute to achieving these major three forest management objectives are relatively rare, a newly published study an international research team shows.

“One might think there is a conflict between timber production and biodiversity conservation. For example, in some cases planting trees very densely to increase timber yields might lessen understorey plant diversity or bird diversity, both important components of biodiversity conservation” explains Dr. Peter Manning, part of the research team from the Senckenberg Biodiversity and Climate Research Centre. “However overall, we found that this is the exception, not the rule; such winner-loser games are not what is really happening.”

To find out what goes on in European forests the researchers measured and correlated 28 ecosystem services and processes that underpin timber production, climate regulation and species diversity in six regions including Finland, Poland, German, Romania and Italy. They are all part of FunDivEurope, a large-scale project examining the relationships between biodiversity and

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Press image



Their future might be bright:
European forests have yet to
realize their potential for
simultaneous high levels of timber
production, climate regulation and
biodiversity conservation.
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ecosystem functions in forests. The group also analyzed data from national forest inventories across Europe, making the study one of the most comprehensive analyses of forest ecosystem functioning at this scale to date.

“The results show that there are synergies between ecosystem processes. For example, if the forest fares well for timber production this also means the forest makes a positive contribution to climate regulation, as tree growth also means more carbon stored” says Dr. Fons van der Plas, a researcher at University of Leipzig, who conducted the study whilst working at the Senckenberg Biodiversity and Climate Research Centre. Additionally, the researchers found, that if a forest does a good job of producing timber and regulating the climate, then this combination may go hand in hand with high levels of species diversity in the same forest.

But the potential for these newly found synergies is not capitalized on by forest managers. Currently there only a few spots throughout Europe where researchers could find simultaneous high levels of all the ecosystem processes that contribute to timber production, climate regulation and biodiversity conservation. Compared to these sites, most forests meet only half of this potential.

In light of this the researchers call for changes in forest management strategies in order to maximize ecosystem processes and thus maximize the benefits of European forests. But those new strategies have yet to be identified, as Manning quickly points out: “The next step would be to have a closer look at the few spots with a high amount of synergies between different ecosystems services to see how this works and might be transferred to other sites”.

*To study and understand nature with its limitless diversity of living creatures and to preserve and manage it in a sustainable fashion as the basis of life for future generations – this has been the goal of the **Senckenberg Gesellschaft für Naturforschung (Senckenberg Nature Research Society)** for 200 years. This integrative “geobiodiversity research” and the dissemination of research and science are among Senckenberg’s main tasks. Three nature museums in Frankfurt, Görlitz and Dresden display the diversity of life and the earth’s development over millions of years. The Senckenberg Nature Research Society is a member of the Leibniz Association. The Senckenberg Nature Museum in Frankfurt am Main is supported by the City of Frankfurt am Main as well as numerous other partners. Additional information can be found at www.senckenberg.de*

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200 years of Senckenberg! 2017 marks Senckenberg's anniversary year. For 200 years, the society, which was founded in 1817, has dedicated itself to nature research with curiosity, passion and involvement. Senckenberg will celebrate its 200-year success story with a colorful program consisting of numerous events, specially designed exhibitions and a grand museum party in the fall. Of course, the program also involves the presentation of current research and future projects. Additional information can be found at: www.200jahresenckenberg.