The Soils of Ireland

Rachel Creamer and Lilian O'Sullivan (Editors) Springer. 2018 300 pages. Hard back. ISBN: 978-3-319-71188-1 €130



The *World Soils Book Series* provides a broad overview of the soils of individual countries. To date, 24 books have been published in the series, covering countries as diverse as Iceland and Iran. The series aims to bring together soil information and soil knowledge in a concise and reader-friendly way. The addition of an Irish volume to the series is to be warmly welcomed.

Following an introductory chapter on the history of soil research in Ireland, a chapter on soil formation provides a good opportunity for the reader to refresh, perhaps distant, classroom memories. It is straightforward and clearly written. The discussion of soil classification, on the other hand, never an easy topic, is rather dense. However, I would urge the reader who might be deterred by it to move quickly on to the more familiar ground of soil geography and development, covering the major soil types in Ireland and their distribution. This and the subsequent chapters on major landscape types are highly informative, bringing together in a single volume an excellent overview of Irish soils.

The editors, Rachel Creamer (Wageningen University) and Lilian O'Sullivan

(Teagasc), have assembled an impressive group of scientists as authors of individual chapters. The majority are based in Ireland and cover a wide range of disciplines including not only soil science but geology, ecology, archaeology, microbiology, meteorology, biochemistry and forestry.

A quick scan of the index suggests that forestry is well-represented in the text. Unfortunately, this is something of an illusion. Many of the references are to a sentence, a part of a sentence, or only a single word. While some topics, on peatlands and carbon dynamics, for instance, provide valuable information relevant to forestry, other chapters are rather disappointing. References to forestry are often cursory and often dated. We are told, for instance, that podzols "are usually used for forestry", this statement supported by a publication from 1980.

The forest productive potential of soils and landscapes is hardly ever referred to in the text. Glancing at the chapter on hill landscapes, I noted that forests featured prominently in the photographs. Sadly, however, they are barely mentioned in the text, with no serious consideration given to suitability.

I looked forward, with some anticipation, to a discussion of wet mineral soils and their suitability for forestry. The gley soils of Leitrim, west Limerick and west Clare are the most productive soils for Sitka spruce in the country, despite their serious physical limitations. I would have liked to have seen a thorough discussion on the relationship between soil properties and forest productivity. Unfortunately, their suitability for forestry is only briefly mentioned, supported by a reference to a paper published in 1973! The physical limitations of these soils and mitigation techniques are mentioned, although references to double-mouldboard ploughing, tunnel ploughing and breaking of iron pans are both dated and somewhat wide of the mark.

A significant body of research on the interaction of forests with soils and water has been assembled over the last 30 years. Many scientists are currently involved in studies of these issues. It is quite disappointing then that no reference is made to this in the chapter on soils and water quality.

Overall, this is a useful publication, but its value is diminished by the neglect, with a few exceptions, of a serious consideration of the suitability of soils for forestry and in a broader context, the interaction of forests with soils and the wider environment.

E.P. Farrell