Zbornik gozdarstva in lesarstva 94 (2011), s. 39–42

GDK: 611:972 Prosilva Europe (145)=111
Prispelo / *Received:* 13.09.2010
Sprejeto / *Accepted:* 21.04.2011

Strokovni članek
Professional report

Development of close to nature forestry and the role of ProSilva Europe

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Abstract

We present the different facets of close to nature forestry and the reasons for its practical success. They lie in using free natural processes, the so-called biorationalisation, to achieve multi- purpose aims. This vision is fully in line with promoting good governance, achieving optimal habitat conditions and thus to improve biodiversity. This appears to be the right model for multiple use in modern societies. It is also compatible with the current goal of good carbon management.

Key words: close to nature silviculture, plenter system, biodiversity, habitats

Razvoj sonaravnega gozdarstva in vloga združenja ProSilva Europe

Izvleček

V prispevku predstavljamo različne vidike sonaravnega gozdarstva in razloge za njegov uspeh v praksi. Razlogi za uspeh so v uporabi naravnih procesov (i.e. biološka racionalizacija), s katerimi laže dosegamo večnamenske cilje gospodarjenja. Tako najlaže ohranjamo visoko kakovost naravnega okolja, optimalne habitatne razmere in biotsko raznovrstnost gozdov. Dobre prakse kažejo, da je sonaravno gozdarstvo pravi model za usklajevanje večnamenske rabe gozdov v modernih družbah, vključno z dobrim upravljanjem ogljika.

Ključne besede: *sonaravno gojenje gozdov, prebiralni sistem, biodiverziteta, habitati*

1 Importance of multiple uses

1 Večnamenska vloga gozda

The challenge for close to nature forestry today is more than ever to fulfil a whole range of interests. In the last decades, there has been a clear trade-off in society's expectations of forest management according to new insights such as:

- Awareness of nature, not only as important heritage to be preserved, but also as the basic surrounding conditions for human wellbeing and for all living organisms. It means living in harmony with nature. The symbolic term biodiversity means nothing other than concern that changing framework conditions for habitats endanger their survival.
- Awareness that important resources like water or energy have been squandered and should be preserved and used in a sustainable way.
- Climate change poses an important challenge for wellbeing. Forest harvesting and the responsible use of timber products exert a significant influence on carbon equilibrium.

Thus, the core element of our strategic vision is a well-functioning and considered integration of all needs and interests. The master word for this is multifunctionality. The visionary aspect here is more important than the resulting forest structures or the silvicultural techniques needed to implement it.

This vision and the resulting ProSilva principles for managing the forests are thus totally in line with today's expectations. This important message needs to be appropriately and positively communicated to a large public. Its consequence, evident to everyone in its importance, is to obtain and maintain vigorous, wealthy, stable, diverse and beautiful forests. Such a positive message is a very important argument in the general debate about what good governance is. We should try to share it with all possible partners driven by the same interests, such as ecologists, conservationists and others.

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2 Timber products and new opportunities

2 Lesni proizvodi in nove priložnosti

Change has also occurred in timber utilisation. Technically there are no limits to timber processing in terms of either timber volumes or tree species. In the past, too much attention was given to producing mass products of average quality in order to reduce processing costs on the basis of economies of scale. In the future, an increase in timber processing will only be possible if appropriate timber quality is considered, and not primarily timber volumes, and if processing leads to diverse products with high added value and a good ecologic footprint. Huge changes are on the way in the fuel wood sector. The emergence of new timber energy products with high added value, such as pellets, is about to change the distribution of the main timber products. Because of the opportunity to substitute fossil commodities, fuel timber constitutes a substantial part of our renewable energy supply. It will soon be sustainable with low and medium quality timber, so giving greater prestige to high value timber.

3 The nature automation principle

3 Princip "avtonege"

All this perfectly supports the ProSilva vision of forest management that aims to produce high value timber and allows a good economic return necessary to encourage forest owners to endorse this kind of forest management. The key to such a system is the awareness that economic efficiency can be achieved through intelligent management and organisation founded on the so-called biological rationalisation or natural automation, using all the natural tendencies that can lead to fulfilling the goals.

The essence of the close to nature vision is a sound definition of the relationship to nature. In fact, nature is not the central focus but the driving belt to implement a sound use of forest resources. Natural processes are an inspiration to find the best way of achieving economic, social and protective goals relying on and in harmony with nature and without damaging it. Many natural processes allow economically efficient dealing with nature through the so-called biological rationalisation, like natural regeneration under cover, natural structuralisation, tree species mixtures, and controlling by shade. Moreover, there are different ways to achieve such structures, and so making appropriate use of the whole variety of silvicultural interventions allows us to improve habitat diversification and thus to make an efficient contribution to general biodiversity. This is the meaning of our motto "Free style of silviculture", after MLINŠEK.

How to combine light and shade, other than by the clear cutting that we strictly condemn, is a great challenge in enhancing general diversity. Such systems have been developed and proven to be sustainable, as well as of economic value. ProSilva has more than a century of experience with silvicultural systems, such as the plenter forest (or selection forest system), combining shelter and group regeneration (see Figure 1) and similar applications in a broad array of site conditions.

The two principles of biorationalisation are nature automation, such as natural regeneration, and concentration on essentials, such as on a few trees of high quality or with large dimensions (SCHÜTZ 1996, 1999a, 1999b). One silvicultural system that is fully in line with such principles is the plenter system (or selection system), because it works with natural regeneration, with not too many tree numbers in the juvenile phase, uses shading as a nurturing force (i.e. maintaining branchiness), and concentrates yield on a few large high quality trees . Another rationalisation lies in cutting decisions made according to the individual potential of every tree, including factors such as the best achievement of value increment as well as the silvicultural benefits to the surrounding stand parts.

Other ProSilva forests are constituted of collectives (or cohorts) on various scales, with mostly high tree numbers and lateral competition, which provides natural pruning, nurturing, and adequate stem shape. Here, the mosaic of stands and its pattern both ensure horizontal structuring, rather than the vertical structuring seen in the case of the plenter forest, and fulfil the need for the structured habitats that are important for biodiversity. Patchwork structuring is possible at a larger scale with a small mosaic of versatile stands. This structure can be achieved, for instance, with an irregular group shelter wood system (Femelschlag).

4 Combining tradition and a new approach

4 Kombinacija tradicionalnega in novega pristopa

Historically considered, close to nature forestry was born in temperate forest sites, where the growing conditions are more or less favourable, following the visionary views of precursors like (GURNAUD 1865, GAYER 1886, BIOLLEY 1897) at the turn of the 20th century. Some decades later, MÖLLER (1922) extended the idea to more limited conditions in northeastern Germany. Now the ProSilva movement brings together 25 European nations, many with different backgrounds, past traditions and general site conditions. The role and a major challenge for ProSilva Europe is to exchange experiences over a large range of different growing and socioeconomic conditions in order to determine the common denominators of our principles and to focus on the core elements of our concept, from the Mediterranean to the boreal regions and through other less widespread conditions.

Because ProSilva works with very complex ecosystem processes and is based on a large amount of practical

Figure1: Irregular shelterwood group allows to develop structures in pure beech forests. Lauenburg District Forest, Schleswig Holstein, Germany

Slika 1: Skupinsko postopno gospodarjenje v bukovih gozdovih. Gozdna uprava vojvodineLauenburg, Schleswig Holstein, Nemčija

experience, the implementation of such a concept needs a high level of silvicultural proficiency. Thus ProSilva management is far from being merely a well-intentioned ideological movement but, on the contrary, is based on a solid scientific background and needs a correspondingly high level of scientific support. Our main goal during the following conference is to show how to bridge science and practice.

5 Conclusions

5 Zaključki

Historically considered, close to nature forestry was born in temperate forest conditions, where the growing conditions are more or less favourable, following the visionary views of precursors like (GURNAUD 1865, GAYER 1886, BIOLLEY 1897) at the turn of the 20th century. Some decades later, MÖLLER (1922) extended the idea to more limited conditions in northeastern Germany. Now the ProSilva movement brings together 25 European nations, many with different backgrounds, past traditions and general site conditions. The role and a major challenge for ProSilva Europe is to exchange experiences over a large range of different growing and socioeconomic conditions in order to determine the common denominators of our principles and to focus on the core elements of our concept, from the Mediterranean to the boreal regions and through other less widespread conditions.

Because ProSilva works with very complex ecosystem processes and is based on a large amount of practical experience, the implementation of such a concept needs a high level of silvicultural proficiency. Thus ProSilva management is far from being merely a well-intentioned ideological movement but, on the contrary, is based on a solid scientific background and needs a correspondingly high level of scientific support.

6 Summary

6 Povzetek

Zgodovinsko gledano se je sonaravno gospodarjenje z gozdovi razvilo v gozdovih zmernega pasu, kjer so rastiščne razmere bolj ali manj ugodne, in sicer na podlagi vizionarskih pogledov predhodnikov (GURNAUD 1865, GAYER 1886, BIOLLEY 1897) ob prehodu iz 19. v 20.

stoletje. Nekaj desetletij kasneje je MÖLLER (1922) idejo razširil na bolj skrajnostne razmere v severovzhodni Nemčiji, sedaj pa gibanje ProSilva združuje 25 evropskih držav z različnimi tradicijami, zgodovino in splošnimi rastiščnimi razmerami. Vloga in hkrati velik izziv za ProSilva Europe je izmenjava izkušenj v širokem razponu rastiščnih in socioekonomskih razmer, od Sredozemlja do borealnih gozdov in drugih, manj razširjenih gozdnih ekosistemov, z namenom zagotoviti oblikovanje skupnih imenovalcev naših načel in osredotočenost na ključe elemente sonaravnosti.

Ker ProSilva obravnava izjemno kompleksne procese v ekosistemu in temelji na veliki količini praktičnih izkušenj, zahteva uresničitev načel visoko raven gozdnogojitvene stroke. Takšno gospodarjenje zato ni le dobronamerno ideološko gibanje, ravno nasprotno: temelji na trdni znanstveni podlagi in zahteva temu ustrezno raven znanstvene podpore.

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