SFI Sustainable Forestry Implementation

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Forest Policy Report SFI/2025

Status quo and Options for further implementation of multifunctional forest management (MFM) and close to nature forestry (CNF) in Ukraine

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unique land use

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About the Project "Sustainable Forestry Implementation" (SFI)

The project "Technical Support to Forest Policy Development and National Forest Inventory Implementation" (SFI) is a project established in the framework of the Bilateral Cooperation Program (BCP) of the Federal Ministry of Food and Agriculture of Germany (BMEL) with the Ministry of Environment and Natural Resources of Ukraine (MENR). It is a continuation of activities started in the forest sector within the German-Ukrainian Agriculture Policy Dialogue (APD) forestry component.

The Project is implemented based on an agreement between GFA Group, the general authorized executor of BMEL, and the State Forest Resources Agency of Ukraine (SFRA) since October 2021. On behalf of GFA Group, the executing agencies - Unique land use GmbH and IAK Agrar Consulting GmbH - are in charge of the implementation jointly with SFRA.

The project aims to support sustainable forest management planning in Ukraine and has a working focus on the results in the Forest Policy and National Forest Inventory.

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Contents

A: Review of the report by NSTE and CNF strategy

1. The report from NSTE (Prof. Andriy Bilous) was delivered to ISTE on October 5th, 2025. It is comprehensive and represents state of the art about MFM and CNF in general. The author (ISTE) understands several specific regulations within the sovereignty of the Ukraine which are not to be commended.

At a first glance it is not easy to understand how functions and main functions are implemented in operational procedures (page 7 of the report of NSTE). Out of the view of ITSE (which might be false here) functions are originating outside of forests and dominate solely forest criteria. For example, a function 'water protection' or 'recreation' will continue, regardless of age of trees etc. Forest management subsequently has to work for these functions continuously, which is easy to make within MFM or CNF. The rate of timber harvest may be touched by functions, but cuts can be carried out carefully and gentle. The more functions are put on a forest area the more CNF is suitable.

Concerning facts about dividing plots into sub-plots due to main functions etc. (page 9): ISTE does not understand this practice. Competing or even contradicting functions on a site at the same time are normal. MFM or CNF pave the way out of this problem without splitting areas etc., because its measurements are flexible and they could be shifted spatially if necessary. Instead of one 'main function' several functions should be assigned to one area. Silviculture offers enough possibilities to tie scattering aims together. The question arises whether a function can be fulfilled in the long run without tending. Basically, forests need to be formed to enhance specific functions. If there should be no solution possible, areas should be separated permanently – which very likely will be an exception.

About stakeholders (page 12): it might be smart to start a first survey and present results (maps etc.) by the forestry administration itself in collaboration with state institutes, because all of them will act in accordance to given legal rules or reasonable reasons. Stakeholders will act for different aims.

In the report some examples in Germany are described, which may be regarded as ideas to think about.

2. Review on CNF strategy (Oleksandr Shust): Detailed, comprehensive. Two annotations: page 4, paragraph 3: CCF is the exception, MFM is dominant in Western Europe. Page 8, number 13: It is important to highlight the role of ungulates as done!

If unbalanced, i.e. to high, densities of ungulates (herbivores) arise or continue, neither MFM, nor CNF (CCF) can be successful! All attempts will fail

for sure if hunting doesn't follow guidelines for balanced densities to be set by forestry administration, based on monitoring or equal estimations of experts.

B: Report and recommendations according to the given topics

ISTE is expected to elaborate a report (about 20 pages in English or German) on German experiences concerning the use of MFM&CNF, review the report elaborated by NSTE and provide conclusions/recommendations in relation to further implementation of MFM&CNF in Ukraine in the preliminary structure as follows

1. Multifunctional Forest Management (MFM)

- Description of challenges and status of scientific definition of MFM and analysis of implementation of MFM in higher forestry education in Germany
- Description of challenges and status of implementation of MFM in forest policy (normative acts, promotion measures and responsible state institutions) of Germany
- Description of challenges and status of implementation of MFM in German forestry administration (planning and monitoring/statistics)
- Description of challenges and status of implementation of MFM in state forest management of Germany
- Options for the further implementation of MFM in Ukraine

2. Close to Nature Forestry (CNF) based on EU Guidelines respectively on the German experiences

- Description of challenges and status of scientific definition of CNF and analysis of implementation of CNF in higher forestry education in Germany
- Description of challenges and status (exemplary) of implementation of CNF in forest policy (normative acts, promotion measures and responsible state institutions) of Germany
- Description of challenges and status (exemplary) of implementation of CNF in German forestry administration (planning and monitoring):
- Description of challenges and status (exemplary) of implementation of CNF in state forest management of Germany
- Options for the further implementation of CNF in Ukraine

Multifunctional Forest Management (MFM)

1.1 Description of challenges and status of scientific definition of MFM and analysis of implementation of MFM in higher forestry education in Germany

1. Challenges, status and scientific definition of MFM

"Sustainable Forest Management" as Forest Europe has defined and reported 2020 https://foresteurope.org/wp-content/uploads/2016/-08/SoEF_2020.pdf; 11.11.2025) uses 41 indicators to prove forest management on sustainability. Multifunctional Forest Management can be regarded as being embedded in this framing guide. Certification systems, like PEFC or FSC, are relating to these indicators (e.g. for Saxony see Regionale PEFC-Arbeitsgruppe 2016). The next European report will be released in 2026.

The very first beginning of multifunctional thinking in forestry in Germany might be combined with the first settlements already before the Romanian period. The first rules on forestry intended to secure the supply with timber (e.g. Hasel, 1985). Milestones in Germany are to be determined in the person of Prof. Dr. Victor Dieterich (1953) who scientifically set an economical fundamental for forests (later called "Waldfunktionenlehre"). He claimed that "welfare effects" are part of forest economy and based on functions and not only on financial questions tied to timber production. A disadvantage of his postulations was not to distinguish clearly from effects of forests and services from forestry management (Oesten & Röder, 2012: 303).

The President of the state forest of Baden-Württemberg, Hubert Rupf, assumed in 1960, if forestry practise of timber production is done "right" all other functions as well as welfare effects will be fulfilled in combination, like in the "keel water" of a ship (Rupf 1960).

These two assumptions: anthropocentric thinking in functions and the assumption of a unity of forest and forestry led to increasing differences in the society. Reasons are simple to understand: world views are different: untouched nature versus human activities (Oesten & Röder, 2017). Just one heavily damaged skidder trail presented in a newspaper or internet does not match with functions correlated with 'nature' as foresters propagate. The competitive aims in forest management, which are summed up in the so called "integrative principle" lost attractiveness due to different expectations in society (possibly caused by urbanisation and worldwide problems of threads of nature, extinction, etc.). The model of segregation in contrary – as we find it in the U.S. and most other nations - for example, seems to solve this. In German tradition utilization and protection were practised at the same site at the same time. Many people are obviously faced with insurmountable hurdles in thinking of a harmonic

land use. There are solutions within the "integrative principle" if demands besides timber production are included prominently in forest planning, forest personal well trained, and evidence can be presented to the public continuously.

Science might not be able to solve these competitive aims in a satisfactory way because it primarily is a political issue. Nevertheless, science can reveal needs at the level of genetics, species, habitats and so on as well as economy, social demands, technology etc. Scientists started a different approach by defining clear topics resp. areas of actions and restraints of human beings in forests (see below WBW). After all: MFM is like a great umbrella, offering a wide space to cover different management practises. Hence more detailed guidelines, "rules" etc. e.g. for soil protection, nature protection, silviculture, harvest operations, CO 2 etc. have been implemented or are about to be implemented under the roof of MFM.

2. Description of implementation of MFM in higher education

In Germany there are 9 institutions of higher education in forestry, granting academic degrees (bachelor, master, doctorate, postdoctoral qualifications). Four traditional universities:

1. Technische Universität Dresden (https://tu-dresden.de/bu/umwelt/-forst; 27.10.2025),
2. Albert-Ludwigs-Universität Freiburg (https://www.msc-forst.uni-freiburg.de/de/forstwirtschaft; 27.10.2025)
3. Georg-August-Universität Göttingen (https://www.uni-goettingen.de/de/home/19852.html;27.10.2025)
4. Technische Universität München (https://www.ls.tum.de/ls/studium/-studiengaenge/forst-und-holzwissenschaft-msc/ ; 27.10.2025),

and five universities of applied sciences offering degrees of bachelor, master and partly doctorate programs (e.g. Weihenstephan):

1. Eberswalde (https://www.hnee.de/studium/bachelor/forstwirtschaft; 27.10.2025);

2.Göttingen [neighbouring university]

(https://www.hawk.de/de/studium/studiengaenge/bsc-forstwirtschaft-goettingen ; 27.10.2025);

3. Erfurt (https://www.fh-erfurt.de/fakultaeten-und-fachrichtungen/landschaftsarchitektur-gartenbau-und-forst/forstwirtschaft ; 27.10.2025)
4. Rottenburg (https://www.hs-rottenburg.net/ ; 27.10.2025) and
5. Weihenstephan [Freising, neighbouring TU München] (https://www.hswt.de/hochschule/organisation/fakultaeten/wald-und-forstwirtschaft ; 27.10.2025).

All institutions teach and impart MFM. Fields range from arboristics to zoology, including all aspects of natural sciences, economy, politics, social sciences, technology, etc. related to forestry and international relations (individually different main areas; see curricula there). It is not possible to define exactly in which amount MFM is teached, because theoretical and practical lessons merge. Basically, modules of public relations, law, silviculture, forest ecosystem management and harvest technologies are closely related to MFM. Nowadays for graduates it is increasingly important to know about moderation, digital issues, details about FFH-regulations and knowledge about protected animals and –plants, Red List and so on. Classical silviculture training has lost in weight resp. has been shifted to state forest administrations in an after academic training. Unemployment of academic graduates is extremely low.

1.2 Description of challenges and status of implementation of MFM in forest policy (normative acts, promotion measures and responsible state institutions) of Germany

1. Normative acts

In the Federal Republic of Germany, the government published intentions on how to manage forests within a framework of sustainability (Bundesregierung 2025a, 2025b). There are conclusive but no concluding definitions of MFM in Germany. Legislation and body of law in Germany distinguishes from federal and state laws. On the federal level a 'framing' forest law (binding in 1975 with some adaptions in meantime) does not quote expressis verbis (multifunktionale Waldwirtschaft [multifunctional forest management]). It calls for "ordnungsgemäße Forstwirtschaft" ["proper management, forestry according to the rules]).

The framing federal law determines in section 1 a general aim and more detailed in section 11 the minimum: afforestation of clear cut or incomplete areas,

Section 1 says, aim of this law is:

"the forest for its economic benefits (utilitarian function) and for its importance to the environment, in particular for the long-term productivity of the ecosystem, the climate, the water balance, air purity, soil fertility, the landscape, agriculture and infrastructure, and the recreation of the population (protective and recreational function), to increase it where necessary, and to ensure its proper management in a sustainable manner, to promote forestry, and to strike a balance between the interests of the general public and the interests of forest owners." Translated with DeepL.com (free version).

The formulation "proper management" (i.e. forestry according to the rules) is a 'living', undetermined legal note. That means it is flexible and will be defined by practice in a sense of a "state of the art" and by judgements in specific cases. The federal states in Germany determine more detailed what it comprises in their state laws.

For example, the state of Bavaria defines in the law on forestry (2005) in article 14

Forest management

(1) 1.The forest shall be managed appropriately within the scope of this Act and protected from damage. 2.To this end, the following shall apply in particular

1. When regenerating the forest, tree species appropriate to the location shall be selected and native tree species shall be included in an appropriate proportion, and the possibilities for natural regeneration shall be exploited.
2. forests shall be developed in a manner that meets needs and conserves nature,
3. forest soil and forest stands shall be treated with care in forest management,
4. the use of fertilizers for the purpose of increasing yields shall be avoided and the use of chemical pesticides shall be avoided as far as possible,
5. biological diversity shall be preserved,
6. to avoid clear-cutting in high forests; paragraph 3 remains unaffected [that focusses on clear cuts in specific cases after official allowance; the author].

(Translated with DeepL.com (free version)

In contrary the state of Saarland formulated already in the year 1977 more progressive:

§ 11

Principles for forest management

(1) The forest shall be managed in accordance with the rules of good professional practice within the scope of its intended purpose. When managing the forest, the forest owner shall take into account the importance of the forest for the environment, in particular for the preservation of the natural resources of soil, water, climate, and air.

(2) Management in accordance with the rules of good professional practice is forestry use which, based on sound scientific knowledge and proven rules of forestry practice, uses, regenerates, maintains, and protects the forest. It shall ensure the long-term preservation of soil functions and the preservation and promotion of a species-rich flora and fauna appropriate to the location. When managing the forest, forest owners are obliged to:

1. maintain biologically healthy and stable forests and forest edges,
2. pay attention to the design and maintenance of the landscape,
3. ensure the sustainable natural development of the forest ecosystem in the long term,
4. ensure sustainable timber production in terms of quantity and quality, and use working methods and techniques that conserve stands and soil in forest maintenance and timber harvesting,
5. to immediately reforest unstocked and thinned areas as well as other types of bare areas through natural regeneration, natural succession, coppice forests, sowing, or planting,
6. to promote natural regeneration and to stock forest areas with tree species suitable for the location,
7. develop the forest in line with requirements, taking the greatest possible care to protect the soil, stands, and landscape.
8. Refrain from the large-scale use of plant protection products as a matter of principle, with the exception of areas intended for the production of Christmas trees.

9. Preserve a reasonable proportion of standing and fallen biotope wood.
10. Work towards game densities that do not endanger the natural regeneration of the forest with tree species that correspond to the natural growth and mixture potential of the site.

(3) The forestry authority may order the implementation of individual measures in accordance with paragraph 2, numbers 1 to 9, if they are necessary to safeguard the protective and recreational functions of the forest. (https://recht.saarland.de/bssl/document/jlr-WaldGSLpG3 ; 27.10.2025)

The wording "good professional practice" was discussed in 2003 by two scientists (Winkel & Volz 2003) as a "new" concept for forest management (German "Gute fachliche Praxis"), containing 17 criteria. This publication caused great attendance and hard discussions among the forestry sector in Germany, because more detailed regulations with respect to nature protection are expected to reduce independence of entrepreneurship. At this point it is necessary to insert, that private forest operations in Germany in general are financially based on timber sale (except funds; see below) up to an amount auf approx. 95%. In many cases other services are often demanded by NGO's or "the public" but not adequately combined with financial honouring.

Several differing rules among the states in Germany might be confusing at the first glance. In fact, they represent different attitudes based on historical, social and natural conditions of larger regions. Hence, they will fit better to requirements of people and economy than a uniform one.

2. Promotion measures

State forestry institutions (e.g. research stations) have published a lot of recommendations on how to act against bad consequences of climate change (tree species etc.). Different fundings for habitat trees, tending, transition of stands and much more are offered for private forest owners.

The federal government wants to enlarge commercial forestry acting for resilient, stable forests which may offer different ecological services (BMEL 2021). A new promoting act is 'Climate-adapted forest management'.

Defined measures shall change forest management in line with European regulations. Contrary to the general regulation that the federal government can only set a framework forest law, the government has directly influenced forest owners (i.e., bypassing the federal states) through financial subsidies with

the programs "Climate-adapted forest management" and "Climate-adapted forest management PLUS":

The aim of the programs for non-public forests is to accelerate transitions of often pure softwood forests into more natural, resilient forests in line with EU regulations. The enormous damage caused by bark beetles in spruce and, in some cases, pine stands since 2018 (over 500,000 ha in Germany [https://www.bmleh.de/DE/themen/wald/wald-in-deutschland/ waldtrockenheit- klimawandel.html; 25.10.2025]) casts this unusual approach in a positive light. About 145 million of Euros are available for the program ((https://www.bmleh.de/DE/themen/wald/klimaangepasstes-waldmanagement.html ; 25.10.2025; €145 million for non-state forest owners (https://www.klimaanpassung-wald.de/ ; 25.10.2025))

This support program primarily benefits forests that are far away from nature. Twelve criteria are used to promote forest transition (or conversion):

12 criteria (https://www.klimaanpassung-wald.de/fileadmin/Projekte/2022/W%C3%96SL/Kriterien.pdf ; October 25, 2025) and their background (https://www.klimaanpassung-wald.de/hintergrund; 25.10.2025)

1. Rejuvenation of the existing stand (advance regeneration) through artificial regeneration (advance regeneration through advance planting) or natural regeneration with a rejuvenation period of at least 5 or at least 7 years before use or harvesting of the stand, depending on the initial and target stand.

0. Natural regeneration takes priority if climate-resilient, predominantly native main tree species are introduced and grow naturally in the area.

2. In the case of artificial regeneration, the tree species recommendations of the federal states applicable at the time of regeneration or, if these are not available, those of the relevant regional forestry agency must be observed, whereby a predominantly native tree species composition must be maintained.

3. Allow stages of natural forest development (succession stages) and forests consisting primarily of pioneer tree species (pioneer forests) in the case of small-scale disturbances.

4. Preserve or, if necessary, expand the diversity of climate-resilient, native tree species, for example by introducing mixed tree species in suitable combinations.

11. Avoid clear-cutting. The felling of dying or dead trees or groups of trees outside of planned use (sanitary felling) in the event of calamities is possible, provided that at least 10% of the coarse wood mass is left as deadwood to increase biodiversity in the respective area.

12. Enrichment and increase of the diversity of deadwood, both standing and lying, and in different dimensions and degrees of decomposition; this also includes the targeted creation of high stumps.

13. Marking and preservation of at least five habitat trees or habitat tree candidates per hectare, which remain on the area for decomposition. The habitat trees or habitat tree candidates must be verifiably identified no later than two years after the application is submitted. If and to the extent that it is not possible to distribute five habitat trees or habitat tree candidates per hectare, they may be distributed proportionally across the entire operation.

14. When creating new skid trails, the distance between them must be at least 30 meters, or at least 40 meters in the case of soils that are sensitive to compaction.

0. No use of fertilizers or pesticides. This does not apply if the treatment of stacked roundwood (log piles) is necessary in the event of a serious threat to the remaining stock or an acute risk of devaluation of the lying wood.

1. Water retention measures, including refraining from measures to drain stands and dismantling existing drainage infrastructure, until no later than five years after the application is submitted, unless there are overriding reasons on site that prevent this.

2. Natural forest development on 5% of the forest area. Mandatory measure if the forest owner's forest area exceeds 100 hectares. Voluntary measure for businesses whose forest area is 100 hectares or less. The area to be designated must be at least 0.3 hectares and must be taken out of use for 20 years. Maintenance or conservation measures necessary for nature conservation or traffic safety measures are not considered use. Wood resulting from traffic safety measures remains in the forest.

Glossary of terms (https://www.klimaanpassung-wald.de/service/glossar; 25.10.2025). Translated with DeepL.com (free version).

The "Climate-Adapted Forest Management PLUS" funding program was launched in December 2024. (https://www.bundesumweltministerium.de/

download/foerderrichtlinie-klimaangepasstes-waldmanagement-plus ; October 25, 2025)

It covers eight areas: regeneration, forest microclimate, soil condition, deadwood, habitat trees, water retention, freedom from foreign substances, and natural forest development.

The measures are accompanied by the "Natural Climate Protection Action Program" (https://www.bundesumweltministerium.de/natuerlicher-klimaschutz ; October 25, 2025).

Nevertheless, there are critical views of forestry activities, e.g., from the perspective of official environmental protection: Large proportions of forest areas, especially younger ones, are not considered to be close to natural (Federal Environment Agency 2024: https://www.umweltbundesamt.de/daten/land-forstwirtschaft/nachhaltige-waldwirtschaft#die-vielfaltigen-funktionen-des-waldes ; 25.10.2025). Translated with DeepL.com (free version).

The scientific board on forestry of the federal government (WBW: Wissenschaftlicher Beirat Waldpolitik, 2022) discussed the subject an proposed the following (summary):

"The Scientific Advisory Council for Forest Policy (WBW) proposes a more comprehensive concept for adaptable forest governance1 as an alternative to good professional practice in order to meet the challenges of global change. It aims at a new distribution of burdens between forest owners and society and is based on a broad mix of instruments to achieve "economically desirable forestry practices." The foundation of adaptable forest governance is formed by the mandatory, sanctioned minimum legal standards of forest management. The WBW's proposal for adaptable forest governance is based on the following principles:

economically desirable forestry practice." The foundation of adaptive forestry governance is formed by the mandatory, sanctioned minimum legal standards for forest management that result from the obligation of property owners to act in the public interest. These include, for example, the obligation to maintain forests and the right of access. In addition to traditional regulatory instruments, other components of the mix of instruments include various support instruments (e.g., to reward climate protection or biodiversity services), structural instruments (e.g., to strengthen forestry associations), the provision of), structural instruments (e.g., to strengthen forestry associations), the provision of appropriate information, including the necessary research, and the creation of framework conditions to enable cooperation with and

between private institutions. The WBW recommends that the federal government anchor this step-by-step concept for achieving "socially desirable forestry practices" in the amendment to the Federal Forest Act.“ [Translated with DeepL.com (free version)]. This is the current situation.

Different state institutions also are obliged to take care of land and land use. Forestry not only is supervised by forest administration but also by state institutions of nature protection (Umweltbundesamt, Landesämter für Natur- und Umweltschutz, untere, mittlere und oberste Naturschutzbehörde), authorities for hydrology, geology, veterinary and others as forest are related to the society.

Furthermore, private organisations like PEFC and FSC (and upcoming ANW) inspect forest operations periodically to examine if rules and guidelines are respected. Their given certificate allows forest operations to line out their timber as produced in a sustainable manner (it still is possible to sell timber without certification, but mostly at a lower price).

A quite new development arises from European law of nature protection, in detail FFH-Management (fauna, flora, habitat; https://www.bfn.de/management-0 ; 28.10.2025) and restauration law.

A new decision of a court reveals the intensive binding to external laws: The ‘Higher Administrative Court’ (Oberverwaltungsgericht) in Bautzen, Saxony, decided against the forest owner (city of Leipzig) to continue several forest activities without a special verification and documentation in advance if such activities may or might harm aims of the FFH-area (in the specific case a flood plain forest); https://www.justiz.sachsen.de/ovgentschweb/documents/19B126.pdf ; 28.10.2025). The existing forest management plan (Forsteinrichtung) must not contradict against the higher rules of nature protection (European laws) respectively. It needs to be fitted into requirements of FFH-demands. This decision affects all forest owners in Germany as far as they intend to work in FFH-areas. This is regarded as a case of a decreasing position of sovereignty of (classical) forestry among other interests (before it was assumed in general, that MFM will meet always all aims in the forest; cf. ‘keel-water-theory’).

Federal and states laws for forestry call for mapping ‘forest functions’. Out of natural or human aspects special needs are adapted from other institutes or recorded and mapped during forest inventory and planning. Results are important and binding for all plannings inside or outside of forestry by official institutes. The working group ‘forest planning’ (Arbeitsgemeinschaft

Forsteinrichtung) published guidelines in 2015 (https://www.fva-bw.de/fileadmin/user_upload/Daten_und_Tools/Geodaten/Waldfunktionenkartierung/g__eodaten_waldfunktionenkartierung_leitfaden_wfk_2016.pdf ; 29.10.2025). Several functions are described: Forests with protection for water, soil, avalanches, coasts, climate, pollutants, noise, and visibility. Furthermore, there are special functions for genetics, culture and research and recreation. A forest area marked with one or more functions must be managed in accordance with the aims of those functions (in many cases without greater problems [cf. CNF]).

Legally, these obligations range at a lower level than functions by law like strongly protected areas for nature, FFH, Natura 2000. Usually, public forest operations deal with almost all functions.

3. Analysis of implementation

At present the federal programme "Climate-adapted forest management" as described above is intensively asked for and implemented in many non-state forest operations. How long financing will be active, is unclear.

Since today timber production, possibly in maximal amounts and high quality, is the backbone of most forest laws. But as a tendency more aspects enlarged views and demands on forests. Already before the scientific recommendation of WBW (2022, see above) a variety existed in the forest laws of 16 states of the Federal Republic of Germany. Due to the fact, that the federal law on forestry is just a framing one – and might be in future as well - differences among the states will continue very likely. The given examples of the states of Bavaria and Saarland may outline a frame of legal attitudes to the management of forests. In fact at present NGO's like Greenpeace (https://www.greenpeace.de/biodiversitaet/waelder/waelder-deutschland ; 27.10.2026) demand much more forests to be released from forestry in order to gain more nature. It depends on the might of the government to set the rules.

Multifunctional Management it implemented in every of the 16 states of Germany. Because there is no exact and legal definition of "multifunctional" a variety of criteria is applied. Several of them are to be found in every state forest law. In all German states a silvicultural rotation system is possible despite the fact that some states, like Saarland, Thuringia, Baden-Württemberg and the state forest operation of Bavaria (Bayerische Staatsforsten) for example say that "Dauerwald" (Continuous Cover Forestry) would be the long-term aim.

In case of a court procedure, independent judges will scrutinize criteria of proper management as defined by law inclusive comments or reports by

experts (cases are often clearcuts, measurements against bark beetle infestations in spruce stands, nature protection, road building in private forests).

1.3 Description of challenges and status of implementation of MFM in German forestry administration (planning and monitoring/statistics)

The federal law of forests (Bundeswaldgesetz) does shift responsibilities for planning etc. to the states. But it does oblige other state institutions to respect forests and to involve forest administration units in all plannings when forests may be touched.

On the level of states there are two different aspects to be regarded: all official agencies have to take into account all functions of forests in their plannings and have to involve forest administration agencies, secondly states may set up a framing forest planning (Rahmenplanung) with general statements on forests within the general planning of the state (e.g. infrastructure, housing, military issues and so on.). Furthermore, there should be a prescribed 'forest function plan' (Waldfunktionsplan) by law, which emphasises important functions for defined forest areas or in general and show this in maps. Manny forests are covered with several functions at the same time. They have to be regarded in further planning as described in the following paragraph. State institutions for forestry furthermore are obliged to set up a register of all forest properties in the state (Waldverzeichnis).

Of central importance is a so-called medium-term planning (regularly in 10-years periods; Forsteinrichtung, Forstbetriebsplan)). Obliged for all public forests this planning needs to be comprehensive. Mostly a general part (natural and legal facts, functions) is followed by a detailed description (inventory) of the property and measurements planned for each unit. Planning must be in accordance with higher regulations like the MFM determined in the forest law, functions and external regulations. It is the operational part of MFM, which is even further detailed formulated in guidelines for silviculture, nature protection, recreation, water catchment and so on. This planning regularly is "sharp for forestry units" like from a stand to larger units (even though tendencies point to more general units, "strata" (e.g. 'spruce stand age 20 to 60 years old' etc.)) etc. Those management plans are the base to conduct forest operations, they are base for acting, checks and controlling, they are the 'hard' of activities. At which time measurements occur is decided by the forest operation. Taxation more and more is carried out by external companies.

For private forest owners it is recommended (not obligate) to set up a similar planning, sometimes tied to a minimum size of property (state of Saarland e.g.

min. 50ha) or to meet tax regulations. There are minimum standards to be fulfilled, different in public and private properties, for state forests mostly in a maximal detailed form. Private forest owners are allowed to act relatively free of restictions. They must apply e.g. for larger clear cuts or conversions of forest land etc.

Medium-term plans are the operational act of sustainably which is demanded by every forest law in Germany. Forest officials contribute to forest planning by offering information, advice (often funds) and finally permission of plans.

State forests, and most public forests as well, traditionally monitor their property in 10-year periods. But modern techniques, like satellites or drones, will allow to shorten times of surveys. It might be reasonable to carry out important surveys, like tree vitalities, stocking etc. every year or even shorter because these techniques are adequately precise and of low costs in comparison to terrestrical methods.

On the federal level inventories of all forest areas have been caried out three times now (Federal forest survey, 'Bundeswaldinventur'), last time in 2021. Important results are open to the public and are used for general purposes or political work. It meets expectations of the public for commercial and noncommercial activities of forestry in general, for sustainability, and provides fundamental information for all who are interested in forestry (https://www.bundeswaldinventur.de/ ; 28.10.2025). States use that information for statewide analyses and political work, e.g. CO2 issues (they also co-finance the measurements and analyses). For forest planning this survey is not detailed enough.

1.4 Description of challenges and status of implementation of MFM in state forest management of Germany

MFM is implemented in all state regulations on forestry since years. Even though there is a shift of main areas to be seen from timber production within the three functions (economic, ecologic, social) to many other aspects like detailed nature protection, wilderness, genetics, resilience, recreation, carbon and water issues arise more visible. In general, MFM still covers all.

Challenges arise in transferring global and general social aspects into forests and their administration. Especially effects of climate change set forestry right in front of hard questions: tree species, water retention, fire, insects, invasives and even more. Like in other political fields, groups wrestle for might and influence. Forestry is an example of success so far. It might perpetuate competence and ability of competition if it sees through social-political

developments and prepares itself correspondently. Striking arguments lay on her side e.g. protection and production in the same breath. But as life shows, forest organisations think more conservative, re-act instead of pro-act, refuse too often new ideas (even though they might sound silly at the first glance). By this, forestry loses respect and competence step by step. Forestry is offender and victim in one person.

In practise adaptions to social demands take place in general in in two ways: First by changing the forest law if considerable change is necessary. This is a long and intensive process because many institutions participate, including non-governmental organisations (NGO's). An attempt to novel the federal forest law 3 years ago failed due to strong NGO's who influenced politicians decisively and by this intended to stamp their expectations clearly into paragraphs. Finally, there was no novel at all, respectively it is postponed to the future.

Secondly 'silent' changes are done by decree within the existing frame of the law. Those decrees might be set by the government (rather state then federal), the ministry or the head of the (state) forest administration or board of management of state forest operations, depending on the severity of the planed adaption. For example, a change in financial support of private forest owners in a state is set by the ministry. A change in silvicultural measurements in a state is set by the head of the state forestry administration (which is valid only for state property). Several states, e.g. Bavaria, hived off its state forestry operation to a state supervised operation, acting almost like a private one (legal details see https://www.baysf.de/system/files/doc/staatsforstengesetz.pdf ; 26.11.2025)

In this specific case a supervisory board and / or board of management deal with important questions, giving orders to subordinated units.

Private forest owners only depend on the law. If they apply for financial aid they then depend of course on those specific regulations as well.

At present ecological or social functions are not covered substantially by financial support. Thus, still selling timber must finance a forest operation. But more and more activities are coming up to gain advantages beside timber production, like ecological criteria as wildlife trees, dead wood or CO2. As the society is included in a process of understanding, it might be successful to strike for a better financial contribution by the public in general.

At the Europea Union forestry is spread over 13 units. There is a lack of a unified voice and subsequently others will override ideas of (traditional) foresters easily.

1.5 Options for the further implementation of MFM in Ukraine

The New EU Forest Strategy 2030 calls for multiple aims and therefore engagement of several official and in the end social groups.

For example, the state of Baden-Wuerttemberg implemented a smart strategy: including all important stakeholders in a well-defined process to develop a state forest strategy (BW MLR 2025) within given legal rules or to novel legal rules as well. Representatives of the following topics formed an operational result on how to deal with (state) forest. The groups are: forest administration, hunting, environment- and nature protection, tourism, forest economy, timber industry, leisure-time activities, research and a group "other". Nine groups shall represent society. This strategy is more an ongoing process instead of a solidified result. Experts of the forest administration transform results into operational guidelines for the state forest. Certification agencies like PEFC or FSC will refer to that. This procedure leads easily to at least two essential results: divergent interests among groups will neutralize several demands, especially extreme ones and secondly forest personnel by the way is shifted into a position of experts who can form a suitable solution. Of course, forestry has to enlarge its view of forests, has to adopt new aims. A suspected loss of sovereignty will be overcompensated as forestry is able to gain reputation in managing an entire ecosystem (instead of just cut trees).

Even though the author visited Ukraine several times for excursions especially in old growth forests, his knowledge about forestry there is very limited. Based on that very modest knowledge of the present status of forests it seems to be advantageous to distinguish from widely untouched 'old growth' forests and managed ones.

Old growth forests are of a value not to be overestimated within the EU. Nobody else can offer such a treasure of different forest types and amounts of areas as the Ukraine does. Hence it might be worth to think about a 'valorisation' of these untouched areas in the sense of an 'economic ecology'. Financial benefits might be drawn by a special program to be developed for science and a designed high-class tourism without lowering its ecological values or as a source of balance for those states, organizations, companies, etc. who are unable to comply with carbon reduction or other European rules for nature protection, etc. ('ex situ-balance').

Forests already being managed very likely are easy to manage under MFM because it allows to develop a forest according to the items already set by laws. To implement MFM in forest laws and education might be a clear task

because existing definitions give hints and allow a great variety. Forests bearing or offering more than one function allow to alternate standard treatments. Forest planning can point out specific measurements according to given functions.

To train forest employees in the derived details of silvicultural and other management activities should be possible within a determined time frame.

The method of a modified crop tree management for example, combined with different sizes of untouched patches within in a managed area, could be a solution for easy to learn and easy to manage a forest. Furthermore this could be an option for nature protection, competence for nature protection and a successful working with highly motivated employees.

The author assumes a training course for a simple crop-tree management with segregation for nature protection purposes will take about 1 day of instruction for soft-and hardwoods, independent of the level of knowledge of trainees. A training including elements of nature protection (microhabitats, integrative) will take about 2 days of instruction by experts in a first step.

2. Close to Nature Forestry (CNF) based on EU Guidelines respectively on the German experiences

2.1 Description of challenges and status of scientific definition of CNF and analysis of implementation of CNF in higher forestry education in Germany

1. Challenges and status of scientific definition of CNF

What is characteristic? A forest is an ecosystem and not only an accumulation of trees. Basically, an attitude of holism instead of merism is essential. We must start with wording because words can be misleading. Internationally there are many words for 'something without clear cuts'. O'Hara (2014) for example listed 23 expressions for the alternative to "classical" forestry, even more exist. Confusing is that by time interpretations have changed in some cases, additionally some administrations, like the forest administration of the capital of Berlin does not distinguish clearly the terms (Berlin o.J.).

Translated word by word "Close to Nature Forestry" into German language today covers two quite different attitudes. Nowadays it is used for almost the same as age class management without (large) clearcuts, soil preparation or intensive use of pesticides. It can be a rotation system submerged within MFM. The old, let us say classical, type of silviculture consists of three parts: detailed descriptions for establishing, thinning, felling in (clear-) cuts . The old "German forestry" ('Normalwaldmodell') is the typical example for this. Intensive cuts for

regeneration are possible. Even under the umbrella of MFM these three parts continue. The expression "close to nature" is used widely in meantime without the attempt to practice ecological forestry in original sense as sketched below.

Therefore, we need a quick glance at the roots. In 1886 Prof. Karl Gayer, university of Munich, called for more "silviculture in accordance with nature" (Gayer 1886, 1898). In 1922, Prof. Alfred Möller, university of Eberswalde, stumped the expression "Dauerwald" meaning an organism (as an ecosystem we would say nowadays), (Möller, 1922). The basic assumption of both was, forestry only can be successful in the long run, i.e. sustainable, if a forest is understood from an ecological point of view. This is fundamentally different from an understanding like forestry as 'farming with trees' as it was regularly practiced.

The expression "close to nature" in its original meaning was intensively introduced by Prof. Dušan Mlinček (1991, 1996) university of Slovenia for ecological forestry as contrary to classical forestry.

The expression "Continuous Cover Forestry" is equivalent to the German word "Dauerwald", used by v. Gadow and Pukkala (2012). It is an appropriate term, because it focuses on the most detailed structured and well-studied "Plenterwald" and its derivates, which can be covered under the term "Dauerwald". Plenterwald is one shape of "Dauerwald" (see also Schütz 2001). Their work is important because in the most detailed and sophisticated manners they scrutinize this type of management. Similar profound and bridging to practice describes Schütz (2001) for structured forests, especially Plenterwald. Brice de Turkheim and Max Bruciamacchie present in their book "La Futaie irrégulière" (2005) theory and examples combined for a management towards nature. The Association Futaie Irrégulière (AFI) presents a lot of concrete examples, methods of data sampling and analysis (AFI 2011). The German term "Dauerwald" equals in France "la forét continue", or "la futaie irrégulière, FI". CCF and FI are basically the same as "forestry in accordance with nature" synonymous to "naturgemäl3e Waldwirtschaft", leading to "Dauerwald" as it is described and practiced by "Arbeitsgemeinschaft Naturgemäl3e Waldwirtschaft (ANW, which equals ProSilva Germany – even though it isn't spoken in Germany), according to the meanings of Gayer and Möller and concurrent to e.g. ProSilva of Switzerland, France, Austria. Within the concept of CCF plantings are possible as well as an enrichment with wanted tree species in limits (the latter isn't defined yet). The Organization ProSilva published principles for CCF (https://www.prosilva.org/close-to-nature-forestry/pro-silva-principles/ ; 27.10.2025) which are

comprehensively explained. In Germany the ANW also offers principles of CCF (https://www.anw-deutschland.de/p/grundsaetze-der-anw ; 27.10.2025). ANW principles furthermore deal with the known unknown and the unknown unknown as well, by patches or parts of unmanaged areas integrated into the concept.

The author uses the term Continuous Cover Forestry (CCF) instead of CNF in the following to be clear of doubts.

There are at least 8 scientifically proved advantages of CCF in comparison to classical rotation forestry: 1. Stability and resilience of structured stands is higher (Schütz 2001: 119, Mohr et al. 2024), 2. Costs for regeneration are lower (possibly zero), 3. Expenditures for thinning are left out, 4. Timber of great special dimensions and or values are easily possible, 6. Interest rates range higher (Knoke 1998; de Turkheim & Bruciamacchie 2005: 111-138, Schütz 2001: 123-129; Knoke 2012: 167-193, O'Harra 2014: 136-144), 7. Habitat trees may stay in a stand without any time limit. 8. Continuity of forest cover (Schütz 2001: 11f) protects soil and microclimate. At present scientific investigations into resistance and resilience of CCF-stands are going on.

There are three fundamental prerequisites to be successful in a CCF strategy: 1. Densities of ungulates must be in balance with the specific ecosystem, i.e. regeneration needs to be higher than consumption. Balanced densities of ungulates are like a bearing pillar of management (e.g. Ammer et al. 2010, Hösl 2021; Knoke et al. 2024, Holzer et al. 2024); 2. Principles instead of detailed rules will guide foresters through uncertainties but with considerable freedom given in accordance of site conditions and with aims of owners of forests; 3. Trained personnel understand a forest ecosystem well, act based on intrinsic motivation and are supported by tailored data analysis for sustainability. Examples in the past reveal clearly why CCF has failed if these prerequisites are insufficient or missing.

In order to enhance or stabilize biodiversity it is necessary to manage nature well-thought-out. Locally microhabitats and habitat trees etc. are simple to include. On a larger scale up to landscapes a set of untouched patches to larger areas are recommended: integrated nature protection. There are several possibilities to integrate elements of nature protection easily (EFI 2025), which will lead to boost effects than a few large, segregated areas might offer (e.g. Reif, 1991, Scherzinger, 2015).

Of course, it is necessary to act against pure nature to meet human demands. The genial idea is to arrange conditions in a way nature will follow predictably.

In practice this is rather simple: Soil needs to be protected as the most important productive source of all, harvests should take trees as their maximal value respectively function is reached. Human impacts are reduced to release the most favorable trees – single or grouped - from competition. Stocking density should allow maximal increment, permanently natural regeneration, competition and self-thinning combined with permanent dynamics in a favorable spatial structure . This will guarantee resilience, sustainability and continuous production of high-quality timber. In general, it can be achieved by a suitable species composition, a selection strategy without regarding any spacing and by time, approaching "optimal growing stock". This means roughly close to half up to two thirds of maximum. Time of harvest intervals can be defined due to operational needs. The amount of harvest will correspond adequately. Hence, stability, regeneration and biodiversity will be influenced. In Germany harvest intervals may vary from 3 to 10 years (even longer is possible, but the longer the harder the impact). The amount of harvest depends on past increment and desired amount of crowing stock. In Germany for example in a beech-fir-spruce stand net increment of volume will be around 2% of the growing stock per annum. As a thumb rule: In a 10-years harvest interval 20% of the present growing stock are to be taken (e.g. growing stock may be 350 m3/ha, hence a harvest after 10 years of growing may take 70m3 to continue around 350m3/ha; [in a concrete case this planning is carried out more well-founded]).

Important to know is a shift in work activities from classical rotation management to CCF. In CCF the amount of mechanical work (reforestation, thinning, tending) is considerably lower but fellings must be carried out more skilled by workers or external companies and intellectual work of foresters is higher. For example, marking trees for felling in stands of simple crop-tree management may take zero (if done by harvesters) to approx. 1 hour per hectare, in a well-developed CCF-stand it may take approx.1-3 hours per hectare. Resistance, resilience, and high value timber will overcompensate financial shifts of costs for well trained personnel.

2. Higher Education

A survey by the author in 2021 showed basic information on CCF is offered at almost every 9 institutions (see MFM, page 3). There are differences in schedules. It is recommended to look close to present study programs and especially to publications to check the engagement on CCF because study plans are about to change often. Additionally, CCF-strategies are mostly submerged within modules like 'silviculture'.

Since 2001 ANW of Bavaria offers excursions and workshops especially for students which are organized by interested students ("Hochschulgruppen") and in the meantime at every study location of forestry in Germany. The groups visit forest operations and experts to study CCF in reality. The demand for these events is enormous (see; https://www.anw-deutschland.de/p/taetigkeitsberichte-der-anw-hochulgruppen ;).

2.2 Description of challenges and status (exemplary) of implementation of CNF in forest policy (normative acts, promotion measures and responsible state institutions) of Germany

The federal forest law does not mention CCF (CNF). A first attempt to a novel in 2022 intended to implement CCF as a favourable concept. The novel failed in the end due to too much regimentation in the view of forest owners who felt being paternalistic treated.

State forest laws are different. As mentioned above for example the state of Saarland or Hessia use the word "naturgemäß" (CCF) in silvicultural guidelines for state forest (Hessisches Ministerium für Umwelt, Klimaschutz, Landwirtschaft und Verbraucherschutz 2018). „Hessenforst" – the operation for the state forest - instead used a mixture of CCF and 'Close to Nature' in guidelines which allow to integrate elements of a rotation system. Other states sometimes describe CCF in different words. There is no uniform or standardized policy among the states. Nevertheless, during the last decades more and more criteria of CCF are implemented in state forest guidelines of all German states.

For non-state forest owners there are no specific promotion programs except "Klimaangepasstes Waldmanagement" which easily can be used by CCF-forests as well (see page 6, 1.2 above).

2.3 Description of challenges and status (exemplary) of implementation of CNF in German forestry administration (planning and monitoring)

At present intensive talks are ongoing at the EU as well as in federal institutions because too much damage to age class systems led politicians to ask for 'better' forest management. CCF more and more is regarded as a proper strategy to fulfill expectations for stability and biodiversity in future.

While monitoring is done on a federal, state and owner's level periodically, a substantial shortcoming exists in a formalized planning system. Possibly due to tax requirements, traditional procedures of planning in rotation systems are widely applied even though they cannot fit to CCF. Just for silvicultural measurements in the field only a few data are sufficient at a sample plot with

concentric circles to develop recommendations for further management: site unit (forest community), tree species, number of trees in a defined area, DBH, quality of the lower 5m in height, risks and damages; after-growth (tree species, number, risks, damages). Stand-height curves can be calculated from extra measurements for larger areas, resp. site qualities, slenderness can be measured "in the run" after fellings. Increment (DBH, basal area, volume, height, health) could be estimated by different methods or by repetition at the same sample plot at different times.

Actually, ANW has applied for a research and management project in collaboration with university of Göttingen and other experts to implement adapted methods for data sampling, analyzing, planning and controlling especially focused for CCF using most modern techniques like satellites and drones etc. In France, in Switzerland and the U.S. appropriate systems at least in parts are already existing. Interesting is the well-founded procedure of AFI in France, made basically for private or municipal forest operations (AFI 2011, 2018).

2.4 Description of challenges and status (exemplary) of implementation of CNF in state forest management of Germany

CCF was stigmatised right from the start in the 19th century. Some exaggerations, misinterpretations and probably displeasure, hunting and the wish to work as simple as possible didn't encourage state forest administrations to support CCF. Nowadays it is different: CCF or some considerable elements of it have been introduced in the states administrations of Saarland, Baden-Württemberg, Bavaria, Thuringia, Saxony – just to give some examples. Fully applied are suitable CCF-guidelines in several municipal or private forest operations.

Especially the state of Bavaria, after a fundamental reform of the public forest administration in 2005, did choose an interesting approach by adapting a system which was developed in Austria in a private forest operation decades ago (Reininger 2000). It can be understood as bridging procedure between crop-tree management and CCF. It is designed to start with a well calculated amount of crop trees and can lead to options for age class regeneration or to turn into CCF. Advantages are easy training, easy monitoring and flexibility because trees of special functions are included in the set of crop trees. There are several guidelines, in general and for tree species as well as for mountainous silviculture (https://www.baysf.de/klimawald/waldbau-waldumbau/ ; 04.11.2025).

Critics from "CCF-experts" concern an uncomplete understanding of dynamics in mixed species stands, too less untouched areas and too strict spacing of crop trees.

The state forest operation of Baden-Württemberg wants to combine MFM (CNF) and elements of CCF also working with crop trees (https://www.forstbw.de/schuetzen-entwickeln/oekologische-waldbewirtschaftung ; 04.11.2025).

The state forest operation of Thuringia ("ThüringenForst") set the model of "Dauerwald" (CCF) being developed on the base of CNF https://www.waldbesitzerportal.de/waldbewirtschaftung/waldbau-waldumbau/das-waldbauliche-leitbild/ ; 04.11.2025).

The state forest operation of Saarland follows the model of "Dauerwald" (CCF) in silvicultural guidelines from 2021 with great respect to nature protection (https://www.saarland.de/SharedDocs/Downloads/DE/mukmav/waldundforstwirtschaft/dl_waldbewirtschaftungsrichtlinie_mukmav.pdf?blob=publicationFile&v=3 ; 04.11.2025).

The state forest in Saxony operates with guidelines and standards, also including many elements of nature protection into regularly silvicultural work (Freistaat Sachsen 2022).

As a short résumé it can be stated. Forest management of state forest operations turn more and more from 'classical' forestry to a close to nature called or even continuous cover management. Still meanings are different in understanding of a forest resp. forest ecosystem.

CCF tries to think from nature to humans. Others think from humans and take as much nature as it is forced.

Forest certification plays an important role to confirm strategies and reality because they check criteria set up in general for state, municipal or private forest operations. Developments initiated by ANW are going on at present to improve forest planning measurements especially for CCF, because FSC and PEFC are not quite suitable for all aspects of CCF.

2.5 Options for the further implementation of CNF in Ukraine

From a distant point of view the author assumes there will be no or minor difficulties to implement CCF if a) willing and appropriate acting of nature-based managing persist, b) freedom and responsibility to the acting people is

given on the base of data analyses, c) densities of ungulates are well balanced.

It might be assumed, CCF in general can be applied in all forest communities of western, central or eastern European forests. Well investigated examples are to be found in submontane to montane European beech- Silver fir- Norway spruce forests resp. stands, European beech-dominated forests, (Sessile) oak-European beech-hornbeam stands, other broadleaved communities and in Scots pine forests. Even former coppice stands can be a starting point for CCF (AFI 2011).

CCF was adapted of many private or municipal forest operations because of its advantages, especial financial ones. The scientific community more and more turns to that system because of its advantages for biodiversity and public requests. A severe task is to transform more or less artificial pure pine or spruce stands into site adapted multi aged mixed stands. The author has worked on this topic for about 30 years. There are several strategies existing to cope with that problem.

Condensed result

For managed forests it might be interesting to look on 3 different silvicultural procedures as listed below:

Proposals under given rules or guidelines (Eu-Forestry, MFM, CCF)

No.	Name	Procedure	Advantages	Disadvantages	Comment
1	Simple Crop-tree manage-ment	Foresters select and mark future trees (crop trees) just one time and permanently. Nature protection and additional functions achieved by segregation.	Very efficient performance in hectares. Forest personnel mark competing trees to be harvested (1-3). Repeated release from competition for crop trees can be done by external personnel or technology with artificial intelligence (e.g. camera on harvester etc.). Good growth, mechanical stable crop trees (hid-ratio), easy to check, supervise and to control natural regeneration possible	Homogeneous structures of stands, cultural objects, nature protection in segregated areas.	A suitable concept for limited demands, easy to practise, small risks. Too easy for experts.
2	Crop-tree manage-ment with habitat trees	Foresters select and mark future trees (crop trees) in two subsets (F1, F2) permanently. Nature protection and additional functions are integrated into the procedure.	Efficient, multifunctional, scientifically well founded. Well trained personnel are capable in all functions of a forest. Main areas of functions can be realized by species, number of crop trees or habitat trees, aesthetics etc. Ecological and mechanical stable, attractive looking stands, easy to check, supervise and to control, natural regeneration possible; good experience in Germany especially in the state forest operation of Bavaria (BaySF). Small segregation is recommended.		A good combination of financial, operational, natural and social demands. Somewhat demanding for personnel.
3	CCF	Multidimensional, selective marking of trees to be harvested, crop-trees as an exception possible.	Production, harvest and nature protection are hand in hand, imitating nature, high ecological stability, high increment, low risk, high revenue possible, flexible, "tended wilderness", aesthetically favourable, maximal silvicultural freedom, fulfilling all modern needs. No segregation necessary (requests guidelines).	Motivated and very well-trained personnel, supposes permanently low densities of ungulates, supposes data from sample plots. Controlling demanding. Harvests suppose skilled workers.	Easy to practise for well trained personnel even though high-end forestry.

C: Summary

European regulations aim to sustainable forestry in a comprehensive view and offer a wide range of possibilities.

Multifunctional Forestry Management (MFM) spreads a large umbrella on forestry. It just excludes unsustainable practices.

"Close to Nature Forestry" meanwhile is a misleading wording, because it is not the same as Continuous Cover Forestry (CCF).

A first step or a bridge between a strict age class systems and CCF could be "Crop-tree management with site adapted mixed species stands, integrating habitat trees and confined segregation".

Forest personnel very likely will appreciate versatile, demanding and motivating professional work.

Involving society enhances acceptance, agreements and activities for forestry. Base of all successful acting is reliable data and sound controlling by results.

The author wants to finish with two sentences:

Forestry is not about trees. It is about people.

The meal must be delicious for the guests, not for the cook.

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