

BIO DIVER SITY ROAD MAP



Background of the Biodiversity Road Map

Along with climate change, the loss of biodiversity is the biggest environmental challenge and threat of our time. Agriculture and forestry have a direct and inseparable connection with nature: nature affects them, and they affect nature. For MTK and SLC as well as for agriculture and forestry, biodiversity is a matter of responsibility, preparedness and prosperity.

MTK's and SLC's Biodiversity Road Map shows the direction for development of agriculture and forestry in a constantly changing environment. Sustainability and the green transition are changing our society in profound ways, and in this transformation agriculture and forestry are sectors that are necessary, and their importance as a provider of solutions is even greater than before.

The Road Map consists of research information, and the goals and measures of MTK and SLC are based on it. The data shows that agriculture and forestry have travelled far on the right path in combining biodiversity and sources of livelihood. At the same time, the data shows that there is still a lot to be done.

The Road Map guides the activities so that measures contributing to biodiversity are taken at all levels of the organisations. However, reaching the goals does not depend only on MTK and SLC, so other actors and cooperation between actors are also important.

Implementation of the Road Map will proceed step by step over the coming years in a way that ensures overall and long-term sustainability.

1. MTK's Biodiversity Programme and SLC's Environmental Programme

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2. MTK and SLC start their work with the Biodiversity Road Map

3. Publication of the Biodiversity Road Map

3.

4. Implementation of the Biodiversity Road Map

4.

5. Mission accomplished

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Mission

MTK and SLC together with their members work to protect and promote biodiversity in a way that halts the loss of biodiversity linked to agriculture and forestry, and puts it on a path to recovery.

Together with other actors, the organisations will build a stable, predictable and enabling environment, where promoting biodiversity is an inseparable part of sustainable, responsible and profitable rural livelihoods.

More specific goals and measures that contribute to the mission of the Biodiversity Road Map are divided into eight themes. The themes cover organisations' functions, the operating environment and the core aspects of agricultural and forest biodiversity.

The overall aim is to protect and promote biodiversity in a way that is compatible with profitable and sustainable food and timber production.

MTK and SLC aim for a transition that is predictable, controlled and acceptable in terms of the changes taking place in the organisations and in practical agriculture and forestry.

The themes of the Biodiversity Road Map

1. Biodiversity in a stronger role in the activities of the organisations
2. An enabling operating environment and cooperation as a basis
3. Safeguarding valuable habitats in commercial forests
4. Strengthening structural features valuable for biodiversity in commercial forests
5. More diverse arable areas
6. Special attention to field margins and borders
7. Adequate and high-quality management of traditional rural biotopes and natural pastures
8. A leap forward in voluntary establishment of protected areas and restoration

Agricultural researcher reports

The current state of biodiversity

40 percent of all threatened species live primarily in different cultural environments, i.e. in agricultural areas, when looking at the four functionally most important species groups in agricultural areas (birds, insects, plants, soil organisms). By far the most important habitats for threatened species in agricultural areas are traditional rural biotopes, which are among the most threatened habitat types in Finland. Out of 42 different types of traditional rural biotopes, 40 are classified as critically endangered and two as endangered.

The main reason for this is the reduction in meadow-like areas due to overgrowth as natural pastures have decreased. As for the usual species in agricultural areas, the biggest threats are related to intensified crop production, a decrease in the quantity and quality of field margins and borders, and the use of chemical plant protection products. The number of grazing animals has declined, which threatens the future of many common species as well as traditional rural biotopes and the species there.

Scenarios and their effects

Scenarios were used to examine what kind of actions are needed to strengthen biodiversity in agricultural environment. The scenarios differed from each other in terms of the amount of biodiversity areas, the use of arable areas and agricultural practices (e.g. use of plant protection products). Four indicators were used in the evaluation of the scenarios: soil organisms, farmland birds, wild bees and the amount of areas of High Nature Value.

Based on the scenario analysis, reversing biodiversity decline in agricultural environment is possible if decisive steps are taken and sufficient resources are secured, while at the same time developing food production in Finland. This requires strong support from the entire Finnish food system. The current production volumes can be maintained, even if a significant share of agricultural land is devoted to producing environmental benefits.

Scenario 1 – WEM

- A scenario describing the current situation: the current policy instruments and, by default, the implementation of CAP27 environmental measures in the aimed extent presented in Finland's CAP Strategic Plan.
- The state of biodiversity will improve slightly by 2030, but after that it will deteriorate or remain stable until 2050. The exception is soil biodiversity, which will decline throughout the scenario period.
- Total costs are EUR 200 million by 2030 and almost EUR 1 billion by 2050.

Scenario 2 – WAM1

- Halting the loss of agricultural biodiversity with moderate additional measures: increasing the areas of traditional rural biotopes, environmental fallows and field margins are the key and the most effective additional measures of enhancing biodiversity.
- The state of biodiversity will improve especially between the present situation and 2030 and will continue to improve or remain stable by 2050. Soil biodiversity will decline by 2030 but will reach the current level by 2050.
- Compared to the areas implemented in 2022, an additional investment of EUR 54 million is needed per year by 2030 and EUR 64 million per year by 2050. The total costs are EUR 380 million by 2030 and around EUR 1.7 billion by 2050.

Scenario 3 – WAM2

- Putting the agricultural biodiversity on a path to recovery with significant additional measures: the additional measures are the same as in the WAM1 scenario, but they will be implemented on a wider scale, and in addition, the guidance of the EU Biodiversity Strategy and the EU Farm to Fork Strategy will be fully implemented.
- The state of biodiversity will improve substantially between the present situation and 2030 and will continue to improve by 2050. Soil biodiversity will decline by 2030 but will reach a level that is better than the current level by 2050.
- Compared to the areas implemented in 2022, an additional investment of EUR 76 million per year is needed by 2030 and EUR 95 million per year by 2050. The total costs are around EUR 530 million by 2030 and nearly EUR 2.6 billion by 2050.

Policy instruments

Farming is strongly regulated by society, and agriculture is the most integrated sector within the EU. Biodiversity in agricultural environment can be increased by a wide range of policy instruments and by allocating related funding. When improving the state of agricultural biodiversity, it is recommended to expand the implementation of measures seen as the most effective. These include, in particular, environmental contracts concerning the management of traditional rural biotopes, as well as biodiversity and environmental fallows.

Traditional rural biotopes and biodiversity fallows are expensive measures in terms of unit costs, but there are no replacement measures especially for traditional rural biotopes in the protection of threatened species in the agricultural environment. In addition, the conditions of farms that have animals grazing in these areas must be improved and developed in the long term. In the fields and field margins, insect-pollinated crops, catch crops and soil improvement crops as well as environmental fallows are cost-effective measures when protecting and maintaining common agricultural biodiversity. Advisory services and increasing research information on farming practices promoting biodiversity are important to spread good practices.

Forest researcher reports

The current state of biodiversity

76 percent of Finland's forest habitat types are threatened. Forests are the primary habitat for 31 percent of our threatened species. 9 percent of forest species are threatened, and 40 percent of them live primarily in herb-rich forests. The most important reason for such classification of forest habitat types and forest species is the deterioration of the ecological quality of the habitat types, and the fact that regeneration and management measures have weakened the structural features that are valuable for the biodiversity of forests. These have contributed to the reduction of deadwood, old forests and old trees, changes in tree species composition, and the reduction of burnt areas and other early stages of natural succession.

The single most effective way to help threatened species and habitats is to establish protected areas. Nature management is needed, especially in herb-rich forests, esker forests, hardwood forests and riparian forests. One of the most important nature management measures to help threatened species is to increase the number of large and old trees, both living and dead. In terms of threatened species, nature management would be most effective in southern Finland, in limestone areas, in herb-rich forests and close to existing protected areas.

Scenarios and their effects

Scenarios were used to evaluate the benefits of nature management on biodiversity, and structure and development of commercial forests as well as its impact on profitability of forest management. In addition to the nature management measures in commercial forests, the effects of increasing protected areas were evaluated. The analysis covered private forests (excluding Northern Lapland and Åland) and covered the period until 2100.

According to the scenarios, nature management measures in forests used for timber production can significantly affect the structural features that are important to forest biodiversity in the next 30 years. Increasing the area of protected forests is the most effective, but at the same time the most expensive way to contribute to structural features that promote forest biodiversity.

Basic scenario 1 - SK1

- Nature management measures in accordance with the PEFC Forest Certification requirements that were valid until 2022.

Basic scenario 2 - SK2

- A scenario describing the current state: nature management measures in accordance with the new PEFC Forest Certification requirements.
- The number of retention trees will almost double and the amount of deadwood will steadily increase, approaching the level of 10 m³/ha by 2050. The new PEFC criteria will increase the annual investments of private forest owners in biodiversity maintenance by 1.1–1.7 e/ha. This corresponds to a maximum of one percent of the annual net income of timber production.

Biodiversity scenario 1 - SK3

- Compared to the SK2 scenario, in addition to additional nature management measures, 10 % of the forest land is protected.
- In commercial forests, the number of deciduous trees increases and the amount of deadwood doubles. The age distribution is more even.
- The total annual roundwood removal will decrease by 8.3 million m³ compared to the basic scenario.

- The costs of additional protection and nature management measures for private forest owners are EUR 161–406 million annually. This corresponds to a 9-17 % decrease in annual net income. With an interest rate of 3 %, the total costs for private forest owners are EUR 10 billion (additional protection EUR 6.5 billion and nature management EUR 3.4 billion).

Biodiversity scenario 2 - SK4

- Compared to the SK3 scenario, in addition to additional nature management measures, 30 % of the forest land is protected.
- In commercial forests, the amount of both deciduous trees and deadwood is doubled. The age distribution is more even. In total, the number of deadwood increases significantly and the number of large and old trees increases, especially due to a larger protected area.
- The total annual roundwood removal will decrease by 21.5 million m³, i.e. by more than a third compared to the basic scenario.
- The costs of additional protection and nature management measures for private forest owners are EUR 573–878 million annually. This corresponds to a 31-37 % decrease in average annual net income. With an interest rate of 3 %, the total costs for private forest owners are EUR 25.4 billion (additional protection EUR 21.4 billion and nature management EUR 4 billion).

Policy instruments

Safeguarding biodiversity can be promoted through public policy instruments (administrative-legal, economic and informational policy instruments) as well as market-based instruments. Each instrument has its own pros and cons, and in many situations the best end-result from both biodiversity and landowners' perspective is achieved by combining different nature management measures and instruments. Many instruments also support other ecosystem services, in addition to the instruments' primary objective. These win-win situations are efficient in terms of resources and make it easier for the landowner to balance between the various benefits from forests.

Surveys aimed at farmers and forest owners

According to the results of a survey conducted in the summer of 2023 aimed at MTK's and SLC's members, farmers and forest owners are interested in the effects of agriculture and forestry on the environment and in taking steps to maintain and increase biodiversity. As far as farmers and forest owners are concerned, their own will and objectives are the most important drivers when considering biodiversity. Forest owners are also encouraged by good forest management recommendations and other information as well as personal advice.

However, farmers and forest owners mostly have a negative attitude towards more stringent requirements set by legislation, and a positive attitude towards financial incentives. They have a strong view that biodiversity-related measures should be voluntary and based on financial incentives, as well as an even distribution of costs in the value chain. In addition to government subsidies, market-based solutions, such as a biodiversity premium obtained from the market, as well as cooperation between landowners are of interest to farmers and forest owners.

1. Biodiversity in a stronger role in the activities of the organisations

The goals and measures included in this theme lay a foundation for a successful implementation of the Road Map. Implementation requires that the Road Map is included in the strategy, sustainability goals and operational planning at various levels of the organisations.

It is important that at different organisational levels of MTK and SLC, and among members the importance of biodiversity as the foundation of life and well-being as well as members' livelihood is understood. Members have different objectives in their use of land and forest assets and

in their economic activities, so maintaining and producing nature values is seen as something that is important alongside the production of food and timber. Organisations meet the needs of members through their advocacy work and membership services.

Measures within this theme include increasing the skills and competence of those who are active in the organisations, monitoring the implementation of the Road Map, investing in positive communication, and developing membership services.



Our members should have adequate tools to enhance biodiversity.
– Juha Marttila, president, MTK

2. An enabling operating environment and cooperation as a basis

Enhancing biodiversity in farming and forestry requires support from the operating environment. To achieve the mission, contribution of different actors and smooth cooperation between actors are necessary.

MTK and SLC want to cooperate constructively with other actors both in their own sectors and across sectors both nationally and at regional and local level. With the help of appropriate policy instruments, high-quality nature information and funding from the market, activities that promote biodiversity are carried out in a way that simultaneously supports various ecosys-



Everyone can do something for biodiversity. Farmers and forest owners are prepared to do their part – now we need the society and other actors to do theirs.
– Mats Nylund, president, SLC

tem services, property rights, the economic viability of agriculture and forestry as well as good forest management and food production.

Measures within this theme include development of nature value markets, promotion of business opportunities related to biodiversity and ecosystem services, and support for research. Cooperation between different actors is essential to develop nature information and measuring of nature impacts as well as to improve the flow of information between actors.

3. Safeguarding valuable habitats in commercial forests

Valuable habitats in commercial forests are habitats and species habitats that are protected by law, saved based on forest certification, and safeguarded on a voluntary basis by the landowner and for which there is no legal obligation to protect them.

Forest owners need to know about the valuable habitats on their land so that they can define their objectives for safeguarding them. The principle is that valuable habitats in commercial forests are safeguarded by excluding them from forest management or treating them with special measures. Effectiveness and cost-efficien-

cy are reinforced by allocating actions in particular on sites of high biodiversity value and key importance for the protection of threatened species.

Measures within this theme include improving skills in habitat identification, developing forest management associations' services, and communication that supports safeguarding valuable habitats. Through cooperation between different actors, for example, a programme for herb-rich forest could be launched, and compensation practices reformed to better support the protection of wider habitats.

4. Strengthening structural features valuable for biodiversity in commercial forests



Mixed stands, thickets and deadwood provide the basis for the development of biodiversity.
– Riitta Torikka, member of the MTK Board, forest owner

Valuable structural features include retention trees, deadwood, mixed stands (especially deciduous mixed stands), buffer zones, burnt wood and fire continuity sites, as well as thickets for game and multilayered structure of trees.

Forest owners should define their objectives for maintaining and enhancing structural features and the use of different forest management practices. The aim is to safeguard and enhance valuable structural features by better integrating them into the planning and implementation of forest management

as well as into the quality monitoring. The effectiveness and cost-efficiency of actions can be improved by proper targeting.

Measures within this theme include the development of practical information on structural features, the development of forest management associations' procedures and services, and several feature-specific actions. Cooperation between different actors is needed, for example, to develop geospatial tools and quality monitoring of nature management, and to strengthen research.



The natural values of forests should be preserved. You can get support and help from your own forest management association.
– Mikko Tiirola, chairman of the MTK Forest Delegation

5. More diverse arable areas

In arable areas, biodiversity is taken into account alongside food production, as fields are mainly used to produce food for people. To promote biodiversity, attention must be paid to the characteristics of arable areas, the use of plant protection products as well as to ecological grasslands and biodiversity areas.

Improving the structure, water management and condition of arable fields promotes soil biodiversity, which is the basis for the diversity of plant and animal species in arable areas. Other objectives include di-

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Small actions can increase biodiversity in arable areas. On our farm we have seen the benefits of field grazing for biodiversity.
– Susanna Valtonen, member of the MTK Board, suckler cow farmer



versifying crop rotations, ensuring the appropriate use of plant protection products and increasing grassland and biodiversity areas.

Measures within the theme include communicating the positive effects of new, sustainable farming practices and responsible use of plant protection products, sharing information on successful practices, and encouraging field grazing. Cooperation between different actors is needed, for example, in plant breeding and in the development of farming subsidies.

6. Special attention to field margins and borders

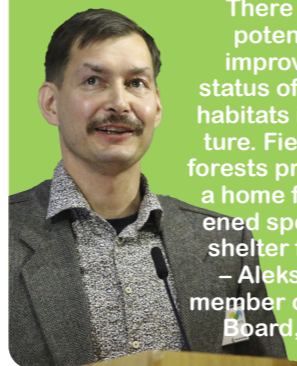
It's worth investing in the planned management of field margins and borders. Many plant and animal species in agricultural environment are more abundant in marginal habitats than in the surrounding fields. In addition, forest-field transition zones and forest islands introduce forest species into the agricultural environment.

The aim is that farmers and forest owners are aware of the importance of field margins, areas between fields and forests, and forests bordering fields for biodiversity. The positive development of biodiversity in marginal habitats is facilitated if farm-

ers and forest owners have defined their objectives for biodiversity-friendly management of these areas.

Measures within this theme include communication and encouragement of good practices. Based on cooperation between different actors, it is proposed to establish a national marginal habitat programme to strengthen research on biodiversity in marginal habitats in Finland, to identify suitable vegetation and management models and guidelines for different areas, and to increase knowledge and advisory services on management of these areas.

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There is huge potential for improving the status of marginal habitats in agriculture. Field border forests provide both a home for threatened species and shelter for crops
– Aleksis Kyrö, member of the MTK Board, farmer



7. Adequate and high-quality management of traditional rural biotopes and natural pastures

The importance of traditional rural biotopes and natural pastures for agricultural biodiversity is crucial. Different types of meadows, grasslands and wooded pastures are important, especially for vascular plants and many groups of insects. These habitats require regular management, either grazing or mowing, in order to be maintained. Without active measures, open areas become overgrown and their biodiversity declines.

The aim is to have 52,000 hectares of traditional rural biotopes with high quality

management. This target is in line with the Helmi Habitats Programme. In addition, the conditions for grazing natural pastures must be improved.

Measures within this theme include improving access to market-based funding for the management of traditional rural biotopes, and communication. Cooperation between various actors is needed to ensure, for example, that the funding needed to achieve the management target is in place, and that large carnivore populations are adequately managed.

8. A leap forward in voluntary establishment of protected areas and restoration

The voluntary establishment of protected areas will expand Finland's network of protected areas and improve its ecological representativeness, connectivity, and ability to adapt to the changing climate. Voluntary restoration, in turn, improves the condition of ecosystems and their ability to provide ecosystem services.

Landowners should be aware of potential sites for protection and restoration on their land, and the possibilities for implementing protection and restoration. It is important for landowners to have defined their objectives for protection and restoration. In order to make the leap forward

possible, the choice of the protection and restoration option must be at least as profitable for the landowner as other forms of economic use of the site.

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Voluntary protection and restoration are good options for forest owners with multiple objectives.
– Saara Koskinen, specialised expert in nature management, Forest Management Association Savotta



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The main reason for the loss of important habitats in agriculture is the overgrowth of traditional pastures. Genuine cooperation is needed to improve the conditions for grazing with ruminant animals.
– Jonas Laxåback, Secretary General, SLC





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slc.fi/bdfardplan



The Central Union of Agricultural Producers and Forest Owners (MTK)
The Central Union of Swedish-speaking Agricultural Producers in Finland (SLC)