Statistical programme

Appendix 1. Luke's statistics

Luke
LUONNONVARAKESKUS

Contents

1. Statistics of the Natural Resources Institute Finland

This document includes descriptions of all statistics included in Luke's statistical programme in 2022. More information about the statistics is available in Luke's online statistical service (luke.fi/en/statistics).

2. Agricultural statistics

2.1. Structure of agriculture

2.1.1. Structure of agricultural and horticultural enterprises (OSF, ESS)

The statistics include information about the number of agricultural and horticultural enterprises, land use, the average cultivation area, and the production line. Information about the number and age structure of farmers is also presented for privately owned agricultural and horticultural enterprises. The statistics also include information about agricultural machinery that is collected from farmers during the collection of data for agricultural structural statistics for 2023.

Datasets: The statistics are based on the register of agricultural and horticultural enterprises, in which information about farms engaged in agricultural or horticultural production in Finland, whose financial size is at least EUR 2,000, is collected annually. The majority of the register's data content is based on data collected from farmers in conjunction with the official activities of the administrative body for rural industries. The data are complemented by information obtained in conjunction with other surveys.

Development: The production of the statistics will be made more effective, the spreadsheet structure will be updated, and new data on the number of organic farms will be produced.

More information is available on the home page of the statistics on the structure of agricultural and horticultural enterprises.

2.1.2. Agricultural and horticultural labour force (OSF, ESS)

The statistics include information about the number of employees in agriculture and horticulture, the annual workload, education, and gender. The statistics are updated every 3–4 years, when the Farm Structure Survey is conducted. Every 10 years, the survey is conducted as a comprehensive survey so that it is targeted at all agricultural and horticultural enterprises.

Datasets: Information about the agricultural and horticultural labour force is obtained from the statistical survey for the Farm Structure Survey and partly also from Statistics Finland (workload of permanent employees, based on data available in the Incomes Register) and the Farmers' Social Insurance Institution (workload of farm relief workers).

Development: Data are collected as part of the collection of data for the 2023 Farm Structure Survey. The data content addresses the requirements of the IFS regulation (Regulation (EU) 2018/1091 of the European Parliament and of the Council) and national data needs. Data available in the Incomes Register were used for the first time in conjunction with 2020 agricultural accounting. A long-term development goal is to further develop the use of the Incomes Register on the basis of experiences.

More information is available on the home page of the statistics on agricultural and horticultural labour force.

2.1.3. Other entrepreneurship in agriculture and horticulture (OSF, ESS)

The statistics include information about the number of diversified farms, the sector, the labour force and workload in other entrepreneurships, as well as the turnover of other entrepreneurships. The statistics are updated every 3–4 years when the Farm Structure Survey is conducted. Every 10 years, the survey is conducted as a comprehensive survey so that it is targeted at all agricultural and horticultural enterprises.

Datasets: Information about other entrepreneurships in agricultural and horticultural enterprises is obtained from the statistical survey for the Farm Structure Survey.

Development: Data are collected as part of the collection of data for the 2023 Farm Structure Survey. The data content addresses the requirements of the IFS regulation (Regulation (EU) 2018/1091 of the European Parliament and of the Council) and national data needs. The use of the business register in the statistics for other entrepreneurships on farms is being investigated. A long-term goal is to identify the opportunity to use the business register for the statistics.

More information is available on the home page of the statistics on other entrepreneurship in agriculture and horticulture.

2.1.4. Energy consumption of agriculture and horticulture (OSF, ESS)

The statistics include information about the energy consumption of agriculture and horticulture by energy source, and by consumption volume and energy content. In addition to statistics for the whole of Finland, the available statistics are divided into the areas of Centres for Economic Development, Transport and the Environment (ELY Centres). Information has also been classified according to the production line of farms. The statistics are updated every 3–4 years when the Farm Structure Survey is conducted.

Datasets: Information about the energy consumption of agriculture and horticulture is obtained from the statistical survey for the Farm Structure Survey.

Development: Information obtained from data collected for 2020 agricultural accounting was also published by production line and ELY Centre area in 2022. The estimation method for energy consumption data in interim years is being developed with Statistics Finland. This is part of the joint development project of Statistics Finland and Luke (Energy statistics: support to the Energy Union and the further disaggregation of final energy consumption, a grants project funded by Eurostat).

More information is available on the home page of the statistics on energy consumption of agriculture and horticulture.

2.1.5. Livestock buildings and manure storages (ESS)

The statistics include information about livestock buildings, and the transfer and receipt, storage and handling of manure. The statistics are updated every 3–4 years when the Farm Structure Survey is conducted.

Datasets: Information about livestock buildings and manure storages of agricultural and horticultural enterprises is obtained from the statistical survey for the Farm Structure Survey.

Development: We will develop the imputation of data about farms that have not responded to the survey.

More information is available on the home page of the statistics on livestock buildings and manure storages.

2.1.6. Farmland management and irrigation (ESS)

The statistics include information about irrigable and irrigated arable land, the application of fertilisers and manure, the tillage of agricultural land, soil cover during winter, as well as the single-crop field area. The statistics are updated every 3–4 years when the Farm Structure Survey is conducted.

Datasets: Information about the irrigation areas of agricultural and horticultural enterprises, the application of fertilisers and manure, the tillage of agricultural land, and soil cover during the winter is obtained from the statistical survey for the Farm Structure Survey. The single-crop field area is calculated on the basis of parcel information obtained from the Finnish Food Authority.

Development: The imputation of data about farms that have not responded to the survey will be developed, and opportunities to obtain information about cultivation measures in electronic format from the crop planning software used by farmers will be investigated.

More information is available on the home page of the statistics on farmland management and irrigation.

2.2. Livestock production

2.2.1. Milk and milk product statistics (OSF, ESS)

The statistics include monthly and annual information about milk production, the number of milk producers, the production volumes of milk products, domestic sales, and stock levels. At an annual level, the statistics also include information about the consumption of milk on farms and the average production of dairy cows. The annual statistics include information about milk production and the number of farms by municipality, ELY Centre region and subsidy area.

Datasets: Data for the monthly statistics are collected from dairies using an online application (Kirnu). The collection of data covers all dairies receiving milk from producers, as well as dairy companies that manufacture milk products. Information about regional milk production is based on data received from the milk register. Information about the consumption of milk on farms is based on data collected from farmers through a sample survey approximately every three years.

Development: Consideration of the requirements of the EU SAIO regulation currently under preparation in the data content of the statistics and in the methods employed.

More information is available on the home page of the milk and milk product statistics.

2.2.2. Meat production (OSF, ESS)

The statistics include monthly and annual information on slaughter volumes of production animals (heads and kg). The statistics also include information about frozen meat stocks. The information is published at a national level.

On an annual level, the statistics include slaughter volumes of cows, pigs and sheep by region (heads and kg). The information is published by municipality, ELY Centre region and subsidy area.
In addition, organic meat production and farm slaughter are published annually in the statistics.

Datasets: Information about the slaughter of pigs, poultry and horses, as well as meat stocks, is collected from slaughterhouses through an online application. The slaughter volumes of cattle, sheep and goats are obtained from administrative animal registers. The volume of organic slaughter is collected once a year from slaughterhouses specialising in organic animals. Farm slaughter is based on data collected from farms through a sample survey approximately every 4–5 years. The data are collected through an online application and by telephone interviews.

Development: Consideration of the requirements of the EU SAIO regulation currently under preparation in the data content of the statistics and in the methods employed.

More information is available on the home page of the meat production statistics.

2.2.3. Egg production (OSF)

The statistics include the quantities of class A and B eggs purchased by egg packaging plants directly from farms and produced and processed by packaging plants in kilograms. Egg production volumes are presented in the statistics by production method: enriched battery cages, barn henhouses, free-range eggs and organic eggs.

Datasets:
Information about the number of eggs received by packaging plants is based on data collected from egg packaging plants four times a year.

Development: Consideration of the requirements of the EU SAIO regulation currently under preparation in the data content of the statistics and in the methods employed. This includes the planning of statistics on the direct sales of eggs and the use of eggs on farms.

More information is available on the home page of the egg production statistics.

2.2.4. Number of livestock (OSF, ESS)

The statistics on the number of livestock include the number of cattle, pigs, sheep, goats and poultry by ELY Centre region and municipality. Until 2018, the number of horses on farms was also included in the statistics. For cattle, the statistics include the number of cows, suckler cows, bulls, heifers and calves separately. For pigs, the statistics include the number of sows, boars, fattening pigs and piglets. For poultry, there are separate statistics for the number of chickens, chicks, cockerels, broilers, breeder hens, turkeys, breeder turkeys and other poultry. For sheep, the statistics are compiled separately for the number of ewes and other sheep.

Datasets: The number of poultry (1 April and on average) is based on data collected once a year from farmers. The data are collected through an online application and by telephone

interviews. The number of cattle on 1 May and 1 December is based on the cattle register and the number of sheep and goats on May in the sheep and goat register. Information on the number of pigs on 1 April and 1 December is based on the pig register.

Development: The inclusion of organic livestock in the statistics will be investigated. Consideration of the requirements of the EU SAIO regulation currently under preparation in the data content of the statistics and in the methods employed.

More information is available on the home page of the statistics on the number of livestock.

2.3. Crop statistics

2.3.1. Crop production statistics (OSF, ESS)

The statistics include information about the yields of the most important crops in Finland. The statistics cover cereals (wheat, rye, barley and oats), turnip rape, potatoes, sugar beet and grass crops. The final statistics include information at the level of the whole country and ELY Centre regions. Information is also provided separately on organic and regular crop production. Four publications of the crop production statistics are produced annually. The first two publications are estimates that represent the ongoing harvest season's situation regarding crops with the largest cultivation areas at the level of the whole country. The third publication is nearly as comprehensive as the final statistics.

Datasets: Regarding cultivation areas, data are mainly collected for estimates from farms in conjunction with the official activities of the administrative body of rural industries. Information about agricultural areas obtained from sampling surveys conducted for farms is used in the preliminary and final statistics. In estimates, information about crop production volumes is based on ProAgria's municipality-specific expert estimates. In the preliminary and final statistics, information about crop production volumes is based on sampling surveys.

Development: International comparability and the publication of dry matter harvest information will be developed. The data collection systems will be developed. Consideration of the requirements of the EU SAIO regulation currently under preparation in the data content of the statistics and in the methods employed. Regarding crop production estimates, publication dates for data collection and the statistics will be postponed by roughly a month from 2022.

More information is available on the home page of the crop production statistics.

2.3.2. Horticultural statistics (OSF, ESS)

The statistics represent the structure and production of horticultural enterprises engaged in commercial activities in outdoor, greenhouse and mushroom production.

Datasets: The statistics include information about the area and yields of horticultural crops cultivated in outdoor and greenhouse production at the level of the whole country and by ELY Centre region. Cultivated mushrooms are reported at a national level. The statistics are compiled once a year, with energy consumption statistics being compiled approximately every three years. Information is available starting from 1984.

Production data are collected from farmers by means of an annual online survey, supplemented by telephone interviews regarding farmers who have not responded to the survey.

Development: Visualisation options for the horticultural statistics, including maps, will be identified. The question of the use and source of irrigation in greenhouses will be studied in conjunction with the 2022 Farm Structure Survey. Calculating the value of horticultural production between Luke's research activities and Statistics Finland is being planned. Importing previous time series into Luke's statistics database (PxWeb spreadsheets) is also being planned.

More information is available on the home page of the horticultural statistics.

2.3.3. Utilised agricultural area (OSF, ESS)

The statistics include information about the cultivated area of the most important crops, the fallow area and the area of other agricultural land on agricultural and horticultural farms in Finland.

Datasets: Information about the cultivated area included in the statistics on utilised agricultural area covers data about farms included in the register of agricultural and horticultural enterprises. Most of the data is obtained from the registers of the data system of rural administration.

Development: Adding organic production areas to the data content. Consideration of the requirements of the EU SAIO regulation currently under preparation in the data content of the statistics and in the methods employed.

More information is available on the home page of the statistics on utilised agricultural area.

2.3.4. Estimated area sown to winter crops (ESS), updated on 13 May 2022

The statistics include an estimate of the area sown with winter wheat and rye, winter turnip rape and rapeseed, and the direct seeding area by ELY Centre region. The aim of the compilation of the statistics is to already estimate the area sown to winter crops during the growing season.

Datasets: The data are collected in conjunction with the crop production survey from all farms included in the survey.

Development: The area sown with winter barley will be included in the statistics. Possible connection of the statistics to the statistics on utilised agricultural area.

More information is available on the home page of the statistics on the estimated area sown to winter crops.

2.3.5. Statistics on the purchase, use and storage of cereals and protein and oilseeds (OSF, ESS)

The statistics include the purchase volumes of cereals and protein and oilseeds by parties that purchase cereals and protein and oilseeds directly from farmers, the usage volume in industries that use cereals and proteins and oilseeds per quarter, and the volume of stocked cereals and protein and oilseeds by parties that purchase and use cereals and protein and oilseeds twice a year.

Datasets: The data are collected using the Viljo data collection application from all enterprises that trade or use cereals and protein and oilseeds, and enterprises that use cereals and protein and oilseeds and purchase cereals and protein and oilseeds directly from farmers and/or use wholegrain cereals and/or have stocks of cereals and protein and oilseeds. Data providers include mills, malting plants, feed plants and other industries using cereals and protein and oilseeds, as well as cereal distributors. Information about purchases and use is requested on a quarterly basis and stockpile information every six months.

Development: The data content of the statistics and the data collection system were updated in 2020. The deployment of the new system and the publication of data using the new data content from the beginning of 2022. Consideration of the requirements of the EU SAIO regulation currently under preparation in the data content of the statistics and in the methods employed.

More information is available on the home page of the statistics on the purchase, use and storage of cereals and protein and oilseeds.

2.3.6. Use of crops on farms (OSF, ESS)

The statistics include the volumes of cereals (wheat, barley, oats and rye) stocked, purchased and used on farms (million kg) by harvest year.

Datasets: The information is based on a crop production survey targeted at farms and on a survey targeted at enterprises purchasing cereals from farms, as well as expert estimates. The crop production survey is conducted for farms in October and November.

Development: Development needs will be assessed on the basis of feedback received from customers, and new potential data sources will be identified.

More information is available on the home page of the statistics on the use of crops on farms.

2.3.7. Food potato storage statistics

The food potato storage statistics estimates the volume of potatoes used as food potatoes in stock on farms and the total volume of food and food-industry potatoes. Total stock volumes also include potatoes intended as seed potatoes.

Datasets: The information is collected by means of sample surveys from farms where the total area of food and food-industry potatoes is at least five hectares. In the autumn (15 October), storage data are collected in conjunction with the collection of data for the crop production survey. In January (15 January), data are collected via a separate online survey.

Development: Development needs will be assessed on the basis of feedback received from customers.

More information is available on the home page of the food potato storage statistics.

2.3.8. Cereals balance sheet

The statistics summarise the supply and demand of cereals by cereal type (wheat, rye, oats and barley) during the harvest year (1 July X – 30 June X+1). The balance sheet identifies the production, initial and final stockpiles, export and import volumes and domestic consumption by cereal type.

Datasets: Data for the cereals balance sheet are collected from different data sources. The most important sources include Luke's crop production statistics, statistics on the use and stockpiles of cereals on farms and by industries, as well as the foreign trade statistics of Finnish Customs.

Development: The reliability of data sources will be monitored and any new data sources will be assessed.

More information is available on the home page of the cereals balance sheet statistics.

2.3.9. Use of plant protection products in agriculture

The statistics represent the use of pesticides in the cultivation of the most important crops in agricultural and horticultural production in Finland.

Datasets: Crop-specific information about the areas and volumes of pesticides used is collected from farmers every five years in conjunction with the collection of data for the crop production statistics and horticultural statistics. Information about available pesticides and the concentrations of their active substances is obtained from the plant protection product register of the Finnish Safety and Chemicals Agency (Tukes). Data were collected in 2013 and 2018. The next collection of data is being planned for 2023.

Development: Opportunities to obtain pesticide information in electronic format from crop planning software used by farmers will be investigated. More detailed information about the use of glyphosate products will be collected.

More information is available on the home page of the statistics on the use of pesticides in agriculture.

2.4. Producer prices of agricultural products and foreign trade

2.4.1. Producer prices of agricultural products (OSF, ESS)

The statistics measure the absolute prices received by farmers for agricultural products. The statistics include producer prices for milk, meat, eggs, cereals, turnip rape and rapeseed, and food potatoes. The producer prices for milk, meat and eggs are prices on the farm. The prices of cereals, turnip rape and rapeseed are reported as delivered to the first point of receipt, and the price of potatoes as delivered to the packaging plant. Statistics on producer prices are compiled for specific product qualities and as averages of all quality classes. Information is published using both monthly and annual prices.

Datasets: The information is collected from enterprises that buy agricultural products from farms using a monthly survey. Information about adjustment payments paid to milk producers is collected once a year. There are a total of six different data collection processes, targeted at five different groups: dairies, slaughterhouses, egg packaging plants, enterprises purchasing cereals from farms, and food potato packaging plants.

Development: Consideration of the requirements of the new EU SAIO regulation in the data content of the statistics and in the methods employed.

More information is available on the home page of the statistics on producer prices of agricultural products.

2.4.2. Land purchase prices and agricultural land rents (ESS)

The statistics cover the prices of purchased and rented agricultural land in Finland.

Datasets: Agricultural land rents are obtained from the dataset of agricultural profitability accounting (FADN). Agricultural land purchase prices are obtained from the statistics on property purchase prices maintained by the National Land Survey of Finland.

Development: National publication of statistics on the purchase prices of agricultural land and forest properties in accordance with the new Eurostat methodology. Consideration of the requirements of the EU SAIO regulation currently under preparation in the data content of the statistics and in the methods employed.

More information is available on the home page of the statistics on land purchase prices and agricultural land rents.

2.4.3. Foreign trade in agri-food products (OSF, ESS)

The statistics of trade in agri-food products include information about Finland's imports and exports of agri-food products. The statistics include CN codes 1–24 and sugar products and modified starches. Monthly statistics include preliminary information about foreign trade and annual statistics include final confirmed information. In the statistics, information about exports is presented by country of destination and information about imports by country of origin. The statistics include information about product volumes and values. Product values are nominal values.

Datasets: Statistical data are compiled on the basis of the International Trade Statistics (Uljas, uljas.tulli.fi) of Finnish Customs.

Development: The data content of the statistics will be specified as required in accordance with customer needs.

More information is available on the home page of the statistics on foreign trade in agri-food products.

2.5. Other agricultural statistics

2.5.1. Balance sheet for food commodities

The balance sheet for food commodities is a comprehensive balance sheet for the whole of Finland. Its aim is to identify the available food volumes from production to consumption. The calendar year-specific balance sheet identifies the production of different foodstuffs, changes in stocks, export and import volumes, and domestic consumption. Part of domestic consumption remains in food consumption. Foodstuff consumption per capita can be calculated by dividing the net food consumption by the average population in the review year.

Datasets: Data for the balance sheet for food commodities are collected from different data sources. The most important sources include Luke's production and crop production statistics, statistics on the use of cereals on farms and by industries, fish consumption and hunting statistics, as well as the foreign trade statistics of Finnish Customs.

Development: Identification of new data sources in the food sector for the balance sheet. The calculation of the balance sheet for food commodities will be compared with the implementation of Luke's crop balance sheets. The aim is to add waste generated during different phases of food production and consumption to the balance sheet. The multipliers used in the calculation will be checked and, if necessary, updated. Development needs will be assessed based on feedback received from customers.

More information is available on the home page of the balance sheet for food commodities.

3. Forest statistics

3.1.1. Ownership of forest land (OSF)

The statistics present information about the number of forest properties and forest property entities owned by non-industrial private persons and other groups, as well as about forest land areas. Forest holdings consist of forest properties of a single owner located in the area in question. These are recorded according to the location of the forest. A forest property entity includes all forest properties of a single owner, and they are recorded according to the owner's place of residence. The number of these ownership units and the area of forest land are presented by the size class of the area. With regard to forest ownership by private persons, this information is presented by region, while information about other forest owner groups is compiled for the whole country.

Datasets: The statistics are prepared using data available in the Tax Administration's registers. The statistics include total data about the ownership and surface areas of properties in the entire country. The figures were calculated by the Tax Administration until 2013. In 2019, the calculations transferred to Luke which has calculated the results using unit-specific data obtained from the Tax Administration starting from 2013.

Development: Information concerning 2016 was published in the spring of 2019. It has not been possible to publish more recent data due to the lack of personnel resources and challenges related to data and accounting. The goal set for 2022 is to update the statistical data and define guidelines for the future. The publication needs and the data content of the statistics will be assessed. The statistical production process will be stabilised, and the publication process will be made quicker.

More information is available on the home page of the statistics on the ownership of forest land.

3.1.2. Commercial fellings (OSF, ESS)

The statistics include monthly and annual information about the volumes of roundwood and energywood harvested for industrial use by assortment and owner group. In addition, the statistics include monthly information about the harvesting labour force and machine volumes. The monthly statistics produce preliminary information about felling in one calendar year before the final statistics are completed. The monthly statistics do not include any regional division, and the data concern the whole of Finland. The annual statistics produce data by region, with the regions of Finland having been used as the regional unit starting from 2015.

Datasets: In the monthly statistics, information about commercial felling volumes is collected through a sample survey. The sample used for the monthly statistics includes five strata, the first of which represents the largest wood buyers, while the other represent small and medium-sized enterprises. The sample used for the monthly statistics consists of slightly more than 20 buyers of wood. The sample size is checked every two years. In the annual statistics, information about commercial felling volumes is also collected through a sample survey. The sample consists of three strata, the first of which represents the largest buyers of wood, the second small buyers of energy wood, and the third small buyers of industrial wood. The sample used for the annual statistics consists of approximately 110 buyers of wood.

Development: The data content of the felling statistics will be developed by including felling volumes relative to the forest land area, felling volumes by felling method and the felling of industrial roundwood by municipality, for example.

More information is available on the home page of the commercial felling statistics.

3.1.3. Total roundwood removals and drain (OSF, ESS)

The statistics cover annual information about total roundwood removals and drain in Finland. Total roundwood removals, or the total roundwood felling volume, consists of roundwood felled for the manufacture of forest industry products and the generation of energy, and roundwood harvested for private use, including wood felled for exports. Total drain, or roundwood excluded annually from the growing tree stocks in forests in Finland, includes, in addition to total roundwood removals, the volume of roundwood left in forests as logging residues (removal waste) and naturally died stemwood remaining in forests (natural drain). The information is published by region, using the division of the regions of Finland starting from 2015.

Datasets: Total roundwood removals and drain are calculated on the basis of other statistics and data published by Luke. Annual statistics on commercial fellings cover nearly all logs and pulpwood felled in Finland. The volume of roundwood sawn for private use by non-industrial private forest owners is added to these figures. It has been determined by means of small-scale sawmill surveys conducted every 10 years. Total energywood removals consist of roundwood consumed as fuelwood in small-scale housing, as well as domestic roundwood harvested for energy generation at heat and power plants.

Estimates of forest waste and natural drain, included in roundwood drain, are based on the measurements and calculations on the inventory plots included in Luke's National Forest Inventory.

Development: Preliminary data have been published from 2019. Preliminary data covering the whole country are published in February following the statistical year, and final regional data are published in June. The delay in publication of the final statistics will be reduced. The statistics will be developed by adding information about removals and drain relative to the forest area, as well as key figures that measure the ratio between realised removals and the estimated felling potential.

More information is available on the home page of the statistics on total roundwood removals and drain.

3.1.4. Volumes and prices in industrial roundwood trade (OSF, ESS)

The statistics present information about volumes and prices of industrial roundwood purchased by the forest industries from non-industrial private forests. Quantities are presented in solid cubic metres (m^3) and prices in EUR per solid cubic metre (EUR/m^3). The statistics are prepared by assortment, type of trade (standing and delivery sales), and also by felling method in standing sales starting from 2011. Wood price regions comprising the regions of Finland are used in monthly statistics that contain preliminary data. The number of these regions increased to eight at the beginning of 2020. The final annual statistics also include data divided according to the regions of Finland.

Datasets: The wood volumes and average prices presented in the wood trade statistics are based on wood trade agreements signed by buyers and sellers of wood. Information about wood trade by the largest buyers is collected by the Finnish Forest Industries Federation, which submits it to Luke. In addition, Luke collects statistical data from medium-sized forest industry companies and forest management associations. The datasets represent more than 90 per cent of the industrial roundwood purchased by forest industries from non-industrial private forests. The data are not expanded to correspond to all wood trade in non-industrial private forests.

Development: The presentation method of the statistics was harmonised, and the length of the time series provided in Luke's statistics portal was extended during 2021 and 2022. In the future, the coverage of the data will be expanded, particularly by increasing the electronic collection of data directly from the data systems of buyers of wood. The investigation of needs and opportunities to include the whole stem pricing in the statistics will continue.

More information is available on the home page of the statistics on volumes and prices in industrial roundwood trade.

3.1.5. Volumes and prices in energywood trade (ESS)

The statistics present information about volumes and prices of energywood purchased from forest owners for use as raw material for forest chips. Quantities are presented in solid cubic metres (m^3) and prices in EUR per solid cubic metre (EUR/m^3). The statistics are compiled by energywood assortment and type of trade (standing and delivery sales). Preliminary data are published on a quarterly basis and the final data are published per calendar year. Wood price areas composed of the regions of Finland are used as the regional division in the statistics.

Datasets: The wood volumes and average prices presented in the statistics are based on wood trade agreements signed by buyers and sellers of wood. If necessary, wood buyers will convert the information included in their wood trade agreements into the units used in the statistics. Information about wood trade by the largest buyers is collected by the Finnish Forest Industries Federation, which submits it to Luke. In addition, Luke collects statistical data from medium-sized forest industry companies and forest management associations. The datasets represent approximately half of the energywood purchased from non-industrial private forests. The data are not expanded to correspond to all wood trade in non-industrial private forests.

Development: A new production system for the statistics will be finalised and deployed. The coverage of the data will be expanded, particularly by increasing the electronic collection of data directly from the data systems of buyers of wood.

More information is available on the home page of the statistics on volumes and prices in energywood trade.

3.1.6. Wood in energy generation (OSF, ESS)

The statistics comprise the annual data on solid wood fuels consumed in heating and power plants.

Datasets: The population of the statistics consists of all significant heating and power plants in industries and energy generation using solid wood fuels in their generation of energy. In total, the statistics include data concerning approximately 1,300–1,400 plants. Information is available starting from 2000.

Development:

Statistics Finland's audit team audited the statistics in the autumn of 2019. In the future, the statistics will be developed in line with the development proposals presented in the audit report. Of these, the preparation of a detailed process description for the statistics and an increasing shift towards electronic data collection (a new collection method in 2020) have been carried out. According to the audit report, the most important tasks in the future are the provision of training for substitutes for the statistics and the further development of statistical production for the SAS environment.

To clarify the set of statistics, all statistics describing the use of wood will be compiled into single statistics entitled "Wood consumption" during 2023. The reform was approved by the OSF advisory board in May 2022.

More information is available on the home page of the statistics on wood in energy generation.

3.1.7. Wood pellets (OSF, ESS)

The statistics comprise annual data on the production, foreign trade and deliveries based on domestic production of wood pellets.

Datasets: Data about the production and delivery of wood pellets are collected directly from wood pellet producers. Data about the exports and imports of wood pellets are obtained from the foreign trade statistics maintained by Finnish Customs.

Development: Resolving the problems identified in electronic data collection.

To clarify the set of statistics, all statistics describing the use of wood will be compiled into single statistics entitled "Wood consumption" during 2023. The reform was approved by the OSF advisory board in May 2022.

More information is available on the home page of the wood pellet statistics.

3.1.8. Forest industries' wood consumption

The statistics on wood consumption by the forest industries present annual wood consumption information on the use of wood by the forest industries; consumption of domestic and imported roundwood, and forest industry by-products and wood residues.

Datasets: The consumption of roundwood by forest industries is largely based on data collected by the Finnish Forest Industries Federation from its members. Luke collects data about forest industry companies directly from these companies. The consumption of roundwood by smaller sawmills has been identified through separate surveys conducted every ten years.

Development: The production of the statistics was already transferred to the SAS environment in 2020. Statistical production methods and electronic data collection will be developed further.

To clarify the set of statistics, all statistics describing the use of wood will be compiled into single statistics entitled "Wood consumption" during 2023. The reform was approved by the OSF advisory board in May 2022.

More information is available on the home page of the statistics on forest industries' wood consumption.

3.1.9. Fuelwood consumption in small-scale housing (ESS)

The statistics present information about the volumes and distribution of fuelwood used in small-scale housing in Finland. The statistics include information about the consumption of fuelwood by type of fuelwood and tree species, as well as by property, building and fireplace type. The information is presented divided into the regions of Finland, and the consumption volumes of fuelwood are recorded as solid cubic metres (m^3).

Datasets: Property-specific data about the consumption of fuelwood have been collected using a mailed questionnaire or alternatively using a web form responded to on the Internet. Data providers for the statistics primarily include residents in residential buildings and secondarily their owners. The last four separate surveys have been carried out at ten-year intervals, covering the heating seasons 1992/1993, 2000/2001, 2007/2008 and 2016/2017. Luke and Statistics Finland jointly collected the most recent data from slightly more than 4,000 respondents.

Development: The most recent data concerns the 2016/2017 heating season, and the data collection process has previously been repeated roughly every ten years. As requirements for having more recent data are increasing, the goal is to update the data more frequently than before by collecting new data or by developing estimation methods together with Statistics Finland.

To clarify the set of statistics, all statistics describing the use of wood will be compiled into single statistics entitled "Wood consumption" during 2023. The reform was approved by the OSF advisory board in May 2022.

More information is available on the home page of the statistics on fuelwood consumption in small-scale housing.

3.1.10. Total wood consumption (OSF, ESS)

The statistics comprise annual information on total wood consumption in Finland.

Datasets: The statistics are a combination of the information about the consumption of roundwood and forest industry by-products presented in the statistics on wood in energy generation and the statistics on forest industries' wood consumption.

Development: To clarify the set of statistics, all statistics describing the use of wood will be compiled into single statistics entitled "Wood consumption" during 2023. The reform was approved by the OSF advisory board in May 2022.

More information is available on the home page of the statistics on total wood consumption.

3.1.11. Silvicultural and forest improvement work (OSF)

The statistics present the annual volume in silviculture and forest improvement (surface areas or kilometres), as well as the corresponding unit costs and total costs. In addition to this information, the statistics include information about annual felling areas based on notifications of forest use and information about seedlings of forest trees and seeding at nursery gardens. These statistics include annual data by region and forest owner group. Annual seed and seedling volumes are only presented by tree species, without any division into forest owner groups.

Datasets: Luke collects data about silviculture and forest improvement using a survey targeted at forest service companies, the forest industries and the state. Data collected by other parties include 1) felling areas based on notifications of use submitted to the Finnish Forest Centre, and 2) seed and seedling volumes compiled by the Finnish Food Authority.

Development: The opportunity to obtain most of the silvicultural and forest improvement data centrally via the Internet without using any response forms will be investigated. Calculations will be automated even further. An estimate for silviculture conducted independently by forest owners will be added to the statistics.

More information is available on the home page of the statistics on silvicultural and forest improvement work.

3.1.12. Foreign trade in roundwood and forest industry products (OSF, ESS)

The statistics on foreign trade in roundwood and forest industry products include information about Finland's exports and imports of roundwood and forest industry products. In addition, the value of Finland's total exports and imports of goods is indicated. Monthly statistics include preliminary information about foreign trade and annual statistics include final confirmed information. The annual statistics present data by country, while the monthly statistics present data without the export or import country until December 2021. The statistics include information about the quantity, value and unit value of products. Product values are nominal values.

Datasets: Statistical data are compiled on the basis of the International Trade Statistics (Uljas) of Finnish Customs.

Development: Development of a data search application for the annual statistics.

More information is available on the home page of the statistics on foreign trade in roundwood and forest industry products.

3.1.13. Stumpage earnings (OSF, ESS)

The statistics present an estimate of the annual gross and net stumpage earnings of forest owners, based on felling volumes and stumpage prices, by region, owner group and assortment. Gross stumpage earnings are calculated according to the place of origin.

Datasets: Data sources include the following statistics published by Luke:

Standing sales prices: 'Volumes and prices in industrial roundwood trade' and 'Volumes and prices in energywood trade'

Felling volumes: 'Industrial roundwood removals by region', 'Energywood removals by region', 'Fuelwood consumption in small-scale housing', and 'Total roundwood removals and drain'

Investments in wood production: 'Operating profit in non-industrial private forestry' and 'Silvicultural and forest improvement work'.

Development: Other statistics are used as data sources. Any development largely takes place based on the development of these other statistics.

More information is available on the home page of the stumpage earnings statistics.

3.1.14. Forestry as an investment (OSF)

The statistics present the investment return index of wood production in non-industrial private forestry by factor and region. It helps to monitor what returns consist of (earnings, expenses, changes in tree volumes, and changes in standing sales prices) and compare returns by region.

Datasets: Data sources include statistics published by Luke and the National Forest Inventory (NFI):

Standing sales prices: 'Volumes and prices in industrial roundwood trade'

Felling volumes: 'Industrial roundwood removals by region', 'Fuelwood consumption in small-scale housing', and 'Total roundwood removals and drain'

Investments in wood production: 'Operating profit in non-industrial private forestry'

Tree stocks: NFI

Development: Other statistics are used as data sources. Any development largely takes place based on the development of these other statistics.

More information is available on the home page of the statistics on forestry as an investment.

3.1.15. Operating profit in non-industrial private forestry (OSF)

The statistics present the operating profit based on earnings and costs of wood production in non-industrial private forestry by deducting wood production costs from earnings. The information is published by region. Some information is also calculated relative to the forest area in wood production.

Datasets: Data sources include the following statistics published by Luke, and information published by the Finnish Forest Centre about state subsidies granted for wood production in non-industrial private forests:

Earnings: Stumpage earnings

Subsidies: 'Use of Kemera subsidies'

Investments in wood production: Silvicultural and forest improvement work

Administrative and other expenditure: Mainly based on estimates and updates made using indices

Development: Other statistics are used as data sources. Any development largely takes place based on the development of these other statistics.

More information is available on the home page of the statistics on operating profit in non-industrial private forestry.

3.1.16. Forest accounts (OSF, ESS)

In forest accounts, use and mass balances are used to represent the provision of wood and forest industry products from different sources, their use in industries and energy generation, and the flow of wood material from raw materials into products in the national economy. In addition, the statistics present information about foreign trade in roundwood and forest industry products in terms of dry-matter tons of wood.

Datasets: No primary data are collected for the statistics. Instead, the statistics are produced on the basis of other statistics.

Sources include statistics on total roundwood removals and drain, statistics on foreign trade in roundwood and forest industry products, statistics on forest industries' wood consumption, statistics on wood in energy generation, wood pellets statistics, forest industry statistics (production), Statistics Finland's energy statistics, and the Finnish Forest Industries Federation's statistics on the consumption and recovery of paper and board in Finland, as well as statistics on fuelwood used in small-scale housing.

Development: Inclusion of carbon cycles in the statistics.

More information is available on the home page of the forest accounts.

3.1.17. Forest protection (OSF)

The statistics include information about the forest protection situation in Finland. The statistics are updated every three years according to the situation at the beginning of the year.

Datasets: Information about forest protection is mainly based on data obtained from the nature services of Metsähallitus and from Metsähallitus Metsätalous Oy. In addition, data are obtained from the Finnish Forest Industries Federation, forest companies, the Finnish Forest Centre and the Environmental Office of the Government of Åland (Ålands landskapsregering, Miljöbyrån). The data cover 1) statutory forest conservation areas, 2) biodiversity conservation sites in commercial forests, and 3) forests supporting the conservation of the nature values of other special areas by region, land and conservation category, and type of area. The surface areas presented cover both the land and water areas.

Development: Converting the forest protection statistics into geospatial data-based statistics available in Luke's statistical service. The coverage of the statistics will be improved further especially regarding protected forests owned by forest funds.

More information is available on the home page of the forest protection statistics.

3.1.18. Small sawmills

Small sawmills are sawmill enterprises or entrepreneurs, whose annual consumption of wood reaches no more than 10,000 cubic metres. They include small local commercial sawmills, disc saws used at farms, as well as portable sawmills providing sawmill services. The statistics include information about the number of small sawmills, and the use and production of wood. Information is given by assortment and mainly at a national level.

Datasets: Sawmill-specific information about consumption has been collected using a mailed questionnaire or alternatively using a web form responded to on the Internet. Information from non-responders and any missing data or data requiring further clarification have been collected by phone interviews. The survey respondents and data sources are sawmill owners or entrepreneurs.

Development: The most recently published statistics concern the calendar year 2010. At that time, small sawmills accounted for such a small part of felling volumes and roundwood consumption in Finland that the collection of new data has not yet been considered necessary. The need to update the data will be re-assessed and the implementation of the statistics will be reconsidered in the near future.

To clarify the set of statistics, all statistics describing the use of wood will be compiled into single statistics entitled "Wood consumption" during 2023. The reform was approved by the OSF advisory board in May 2022.

More information is available on the home page of the statistics on small sawmills.

3.1.19. Well-being at work on timber harvesting (experimental statistics)

The wellbeing at work of people working in the wood supply chain was investigated for the first time in the experimental statistical project conducted by Luke in 2019–2020. Wellbeing at work was examined using six separate themes: 1) workload, 2) job satisfaction, 3) ability to work and health, 4) psychological loads, 5) interaction and social relationships, and 6) recovery, lifestyle and support for coping.

Datasets: Data were collected using a survey with a total of 1,282 respondents. The target group consisted of persons responsible for the harvesting and transport of wood, and persons creating prerequisites for this work from forests to the gates of production plants. More than one-third of the respondents were forest machine operators, while one-fifth were both long-distance transporters of wood and salaried employees. Of all respondents, 15 per cent were logging and forest workers.

Development: The need to update the data will be re-assessed and the implementation of the statistics will be reconsidered in the near future.

More information is available on the home page of the statistics on well-being at work on timber harvesting.

3.1.20. Data service products related to forest statistics

These data are transmitted to users through Luke's statistics portal. These data are not produced by Luke's statistical services, and it is not responsible for their content.

- Finnish Forest Industries Federation's weekly monitoring of wood trade: Home page of weekly monitoring of wood trade
- Forest biodiversity: Home page of forest biodiversity
- Harvesting and long-distance transportation of roundwood: Home page of harvesting and long-distance transportation of roundwood
- Labour force in the forest sector: Home page of forest sector labour force
- Energy: Home page of energy data
- Forest industry: Home page of forest industry data
- Forest resources: Home page of forest resource data
- Bioeconomy in figures: Bioeconomy calculations in the statistical database.

4. Fishery and hunting statistics

4.1.1. Commercial marine fishery (OSF, ESS)

The statistics on commercial marine fishery include information about the number of commercial marine fishers, the volume and value of the catch, and the distribution of the catch and fishing effort. The catch by commercial marine fishers is provided per species, by month, by area and by fishing gear.

Datasets: The statistics for commercial marine fishery are based on the fishing data reported by fishers in the central register of commercial fishery.

Development: The validation of statistical data and the data flows used in statistical production will be developed. The importing of datasets (1980–) into the database is being planned.

More information is available on the home page of the statistics on commercial marine fishery.

4.1.2. Commercial inland fishery (OSF)

The statistics contain information about the commercial inland fishery catch, the value of the catch and the number of commercial fishers. The amount and value of the commercial inland fishery catch is presented by fish species and region. The amount of catch is also presented by month and gear.

Datasets: Commercial inland fishers report their catches annually to Luke. Since 2016, the frame population of the statistics has been the fishers in the register of commercial fishers maintained by the ELY Centre for Southwest Finland. Until 2014, the Finnish Game and Fisheries Research Institute collected the data required for the statistics from professional inland fishers by means of a national questionnaire and telephone interviews.

Development: Key development proposals presented in the audit of the statistics: the statistical production process will comply with Luke's shared TINTTI model, the OSF guidelines will be completed, the statistical production process will also be documented in locations other than the SAS data flow. In 2022, information will be requested from non-respondents in a telephone interview supplemented by text messages. If possible, a method will be developed and implemented to calculate sampling errors in statistical estimates, and any sampling errors will be published.

More information is available on the home page of the statistics on commercial inland fishery.

4.1.3. Recreational fishing (OSF, ESS)

The statistics represents recreational fishing by Finns in Finland. The statistics present the number of recreational fishers and the use of fishing gear by age and gender, as well as catches by gear and fishing area.

Datasets: Data is collected using a mailed questionnaire. Random sample is selected from the Population Information System maintained by the Digital and Population Data Services Agency. Data obtained from the fisheries management fee register maintained by Metsähallitus is also

used in sampling. Survey can also be responded online and using mobile devices. The statistical unit in the recreational fishing statistics is a household-dwelling.

Development: Improving the coverage of the data content published, developing estimation methods, transferring data to databases, and developing the programs used in statistical production. One-time surveys in conjunction with the collection of data in cooperation with the recreational fishing research. Further development of the new data collection application Possible harmonisation of the coding used in the statistics together with other fishery statistics.

More information is available on the home page of the recreational fishing statistics.

4.1.4. Aquaculture (OSF, ESS)

The statistics cover aquaculture production information by area, both at sea and in inland waters. In addition, the statistics include the number of aquaculture enterprises, fish farms and pond farmers operating during the statistical year by production line.

Datasets: The target group consists of enterprises entered in the aquaculture register maintained by the Finnish Food Authority. Data are collected from all fish and crayfish farmers using a mailed questionnaire. Production information concerning Åland is received from the Provincial Government of Åland.

Development: Updating the aquaculture register maintained by the Finnish Food Authority is being planned. In the long term, the goal is to update the data collection application. Development in accordance with changing needs for data.

More information is available on the home page of the aquaculture statistics.

4.1.5. Fish processing (OSF, ESS)

The statistics present the volume of fish raw material used in processed fish products by product and raw material type for both domestic and imported fish and the number of processing enterprises. The statistics are compiled every two years.

Datasets: The statistics population comprises fish processing enterprises drawn from the Enterprise Register of Statistics Finland. The population includes all enterprises engaging in fish processing and wholesale as their main field of business, as well as enterprises in other fields of business that can be assumed, on the basis of their background information, to have also processed fish. Data are collected from these enterprises using a statistical survey.

Development: The description of the statistical process will be specified. In the long term, the goal is to update the data collection system.

More information is available on the home page of the fish processing statistics.

4.1.6. Total fish production

The statistics include information about Finland's total fish production, including catches of both commercial and recreational fishing, and aquaculture production. Catches are presented by fish species at sea and in inland waters, and in commercial and recreational fishing since 1980. Aquaculture production is presented at sea and in inland waters. In addition, total catches of different fish species by country in the Baltic Sea are presented using the regional division

of the International Council for the Exploration of the Sea (ICES). Total catches in the Baltic Sea are presented from 2006 onwards.

Datasets: The statistics are a summary of several OSF statistics: commercial marine fishery, commercial inland fishery, recreational fishing, and aquaculture. Information about total catches in the Baltic Sea is available on the public pages of the ICES (https://www.ices.dk/data/dataset-collections/Pages/Fish-catch-and-stock-assessment.aspx) as a ZIP file.

Development: A description of the statistics and a quality description will be prepared. The quality report for the statistics was prepared in 2022. Since the 2020 statistical year, the statistics have been published annually. A new spreadsheet on the number of fishers and aquaculture employees will be added to the database. The statistics will be developed in accordance with changing needs for data.

More information is available on the home page of the total fish production statistics.

4.1.7. Producer prices for fish (OSF, ESS)

The statistics present producer prices paid to commercial fishers for fish. The prices are prices paid for fish caught in sea areas. Producer prices per fish species are published by region, processing, and size category. The published prices are average prices of the year, quarter, or month.

Datasets: The statistics on producer prices for fish use the prices of first sale purchases collected in the national central register for commercial fisheries. They are supplemented by Luke's panel-based survey targeted at first-sale buyers of fish.

Development: Establishing databases and transferring data to them. If Finland starts to require that notifications for the first sale purchase of fish also be submitted for fish species other than those subject to fishing quotas, and their price data are available in the national central register for commercial fisheries, Luke's data collection process may not be required in the future.

More information is available on the home page of the statistics on producer prices for fish.

4.1.8. Foreign trade in fish (OSF)

The statistics on foreign trade in fish include information about Finland's exports and imports of fish and fish products intended for human consumption and other uses. The statistics present the import and export volumes and values of fish and fish products in foreign trade by product group, type of use and country. Monthly statistics include preliminary information about foreign trade and annual statistics include final confirmed information.

In the statistics, products are presented within product groups by fish species. Import and export volumes are presented in the form of product weight. Product weight refers to the weight of a fish batch or fish product at the time of imports or exports, excluding the packaging material. The import values are CIF values and export values are FOB values.

Datasets: The statistics are based on import and export data collected by Finnish Customs in accordance with EU regulations. Statistical data are compiled on the basis of the International Trade Statistics (Uljas, uljas.tulli.fi) of Finnish Customs.

Development: Specifying the data content of the new statistics in accordance with customer needs. New potential development needs will be assessed during 2022.

More information is available on the home page of the statistics on foreign trade in fish.

4.1.9. Profitability of fisheries

The statistics on the profitability of fishery include the key financial figures of fishery industry enterprises. The statistics provide an overview of the profitability of enterprises engaged in commercial fishery, aquaculture, fish processing, wholesale and retail in Finland, based on the most recent financial statements.

Datasets: Data are obtained from Luke's statistics on production information about fishery and aquaculture enterprises and Statistics Finland's financial statements information about the fishery industry (fishing, aquaculture, fish processing, wholesale and retail). Financial information about the sector and enterprises is mainly based on financial statements information collected by Statistics Finland. In addition, the accounting survey prepared for inland and coastal fishers and trawler operators has been used in the statistics.

Development: Establishing databases and transferring data to them. Adding inland fishery to the statistics. The statistics will be developed in accordance with changing needs for data.

More information is available on the home page of the statistics on the profitability of fishery.

4.1.10. Fish consumption

The statistics on fish consumption include information about the amount of fish available for human consumption on the domestic market per capita. In the statistics, consumption is presented for domestic fish by species according to origin (professional fishing, recreational fishing, aquaculture) and for imported fish by species.

Datasets: Data sources include other statistics published by Luke. The volume of domestic fish supply is calculated as the total amount of the commercial fishery catch landed in Finland, the recreational fishery catch and the production of aquaculture. The species-specific proportion of exported fish, fish used as feed, and fish thrown away is deducted from production. The consumption of imported fish is calculated from the amount of fish imported into Finland. The export volume is deducted from the amount of imported fish.

Development: Other statistics are used as data sources. Any development largely takes place based on the development of these other statistics.

More information is available on the home page of the fish consumption statistics.

4.1.11. Hunting (OSF)

The hunting statistics include a summary of the hunting catch during the statistical year (calendar year). The statistics present the hunting bag by species, the number of hunters, and the time spent on hunting in days. Information is presented both at a national and regional level. In addition, an estimate of the amount of meat derived from the bag is given.

Datasets: Information about small game hunting is collected by means of a sample survey. The sample is selected based on the hunter register maintained by the Finnish Wildlife Agency. Information about bag of species subject to a hunting licence (such as deer, large carnivores,

seals, otters) and species subject to the harvest reporting obligation, as well as estimates of the bag of mouflons, wild boar and rabbits, are obtained from the Finnish Wildlife Agency.

Development: The hunting statistics will be developed together with the Finnish Wildlife Agency. Online data collection will be updated during 2022.

More information is available on the home page of the hunting statistics.

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