

Geospatial forecast of private sector roundwood supply 2009–2028

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A new production forecast for the private sector for the period 2009–2028 has been developed using a combination of the most up to date data sources made available from the Forest Service. The forecast covers all privately owned crops planted up to 2007 including the older part of the private forest estate. The forecast report is downloadable from the COFORD website (www.coford.ie). The total forest area covered by the forecast is 305,192 ha.

In developing the forecast, each forest area was assigned a yield class, thinning treatment and a rotation length based on a combination of site factors and an analysis of Coillte's management prescriptions for similar site and crops types.

The forecast is available at national, regional, provincial, county and catchment levels and provides information on estimated timber volumes by size category (assortment), by species group (including broadleaves), by harvest type and harvest areas. A provisional energy wood assortment is also included.

As the forecast uses spatial data, it was possible to produce specific catchment area (60km and 80km) forecasts for a series of main county towns and timber processing locations. In total some 142 individual forecasts have been prepared.

Three web-based geographic information system (GIS) tools have been developed to aid in accessing the forecasts. The Excel GIS Tool is the main interface and is based on Microsoft® Excel. The ArcReader GIS Tool is based on ESRI® ArcReader 9.3.1 (205.6 MB), while the AdobeReader GIS Tool is based on Adobe Reader 9® (25.6 MB). Both may be downloaded free with broadband access to the internet. A further tool which provides the capacity to query the underlying data behind the forecasts is under development.

Feedback from a series of training workshops held during September 2009 on the use of these tools and the methodology underpinning the forecasts has been extremely positive.

Unlike previous forecasts, net volumes are shown after making allowance for volume losses due to stocking, unproductive areas, windblow and harvesting. The forecast volumes at national level were smoothed to reduce the peaks and troughs arising from the pattern of afforestation over the past 20 years.

The overall net smoothed roundwood production from privately owned forests will increase from an estimated 0.38 million m³ in 2009 to 2.95 million m³ by 2028. Volume production, compared with 2009, more than doubles within the first 10 year period and then trebles within the second 10 year period.

Sitka and Norway spruce account for 19.60 million m³ or 78% of the total smoothed net volume production of 25.13 million m³, pine accounts for 2.81 million m³ or 11%, other conifers total some 1.41 million m³ or 6% and broadleaves account for 1.34 million m³ or 5%.

The total thinning area (first, second, third and subsequent thinnings) increases steadily from 2009 and peaks at almost 30,000 ha in 2022. This scale of thinning, to be achieved within the next 13 years represents a significant challenge to the overall forestry sector. Clearfell areas become significant from 2020 onwards.

This forecast provides a first step in the development of a modern private sector forecast model based on the best available spatial information. It addresses the immediate need for a forecast of roundwood supply from private sector forests. Future work will focus on incorporating accessibility of plantations,

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stocking, use of National Forest Inventory plot data and Growfor yield models.

Forecast volumes are based on a range of assumptions, yield models, inferred management regimes and forecast rules which may or may not be applicable at individual plantation

level. Markets may not always be available for the volumes forecasted.

** Project team and authors of Roundwood production from private sector forests 2009-2028 – a geospatial forecast.*

National net smoothed volume by assortment category for private sector (000 m³)

Production year	Pulpwood 7–13 cm	Medium sawlog (box- wood) 14–19 cm	Large sawlog 20 + cm	TOTAL	Energy equivalent
2009	257	110	15	381	302
2010	291	134	110	536	341
2011	339	128	88	554	398
2012	329	141	79	549	386
2013	290	144	117	551	346
2014	330	209	56	595	388
2015	369	251	70	689	435
2016	428	279	86	793	503
2017	488	329	95	913	573
2018	445	252	155	851	524
2019	515	362	209	1,086	607
2020	623	571	303	1,497	725
2021	602	541	350	1,494	707
2022	623	568	352	1,543	731
2023	570	613	537	1,720	674
2024	576	627	539	1,743	675
2025	521	674	723	1,919	609
2026	516	715	874	2,104	604
2027	506	942	1,212	2,660	597
2028	530	951	1,472	2,953	626
Totals	9,150	8,539	7,443	25,131	10,752

Source: COFORD (2010) Roundwood production from private sector forests 2009–2028 – a geospatial forecast.