

## Abstract template for the conference “A century of national forest inventories – informing past, present and future decisions”

Dear author. This is a two-page template that in the first page will ask for information on presenter name, topic, and preferred presentation form.

On page two, you are asked to fill in your abstract in the format and font size indicated. Please remember to include authors affiliation information in the footer section of page two. The length of the abstract may not be more than one page including references.

<b>Abstract title:</b>		National Forest Inventory Design in Poland
<b>Take-home message:</b>		<i>The NFI in Poland has been carried out on a permanent basis since 2005. The method proved to be highly reliable when compared to independently-gathered data from stand-wise inventory. Currently, results of the NFI are the source for official statistical reporting on forests, both at the national and international levels.</i>
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<b>General topic, see website:</b> <small>(please double click on the check box and activate the relevant one)</small>	<input type="checkbox"/>	Improving future NFIs by learning from the past
	<input checked="" type="checkbox"/>	NFIs today and in the future
	<input type="checkbox"/>	Cutting edge and futuristic inventory techniques and technologies
<b>Preferred presentation form:</b>	<input type="checkbox"/>	Oral presentation
	<input checked="" type="checkbox"/>	Poster
<i>Abstracts will be reviewed by members of our scientific committee and you will be given information on decisions in due time after the submission deadline has passed.</i>		

# National Forest Inventory Design in Poland

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**Introduction:** The total official area of afforested land on Poland is 9.23 million ha, which amount to the forest cover of 29.5% of the country's area. Only 19.2% of the forests are in private hands (GUS, 2016). Poland's National Forest Inventory has been in operation since 2005. The Forests Act states that the State Forests Holding (SF) is obliged to carry out the national inventory of all the country's forests. The Forests Act entrusted with this task the Bureau of Forest Management and Geodesy (BULiGL) - a state-owned commercial company. The main objective of Poland's NFI is to assess the overall forest condition and its evolution on a large scale. The inventory is designed to provide reliable information on forests, independent from stand-wise inventory.

**Materials and methods:** The inventory is carried out in forests of all forms of ownership. In the first two cycles, only lands registered in the cadastre as forest were inventoried. Since NFI3 all forests outside urban areas have been inventoried, regardless their formal status. The NFI is designed for continuous inventoring with the 5-year cycle (yearly observations are carried out on 20% of all sample plots spread throughout the country). There are no gaps between cycles. The inventory is carried out on sample plots located in a regular 4 km x 4 km grid. Sample plots have been set up in L-shaped clusters with equal arms, with five points spread by 200 m one from another. The plot size was variable in NFI1 and NFI2 (Talarczyk, 2014). Since the start of NFI3 all plots have the radius of 11.28 m (400 m<sup>2</sup>). In the centre of the main plot there is a subplot in the shape of a doughnut-like 20-m<sup>2</sup> area outlined by two circles: the outer one with the radius of 2.59 m and the inner one with the radius of 0.56 m. This plot is designed for inventoring all trees and shrubs below 7 cm in dbh (BULiGL, 2015).

**Results:** The inventory has been carried out continuously, now we are in the middle of the third cycle (NFI1: 2005-2009, NFI2: 2010-2014, NFI3: 2015-2019). Results of the NFI are presented by forms of ownership, physiographical divisions, units of the state administration (provinces) and units of the SF administration (regional directorates). Detailed stand-wise inventory is performed in state-owned forests by means of a statistical analysis of data gathered from temporary sample plots. The methodology of volume calculation is similar to that of the NFI (CILP, 2012, Talarczyk, 2014). The NFI volume estimation for all forests managed by the SF is 6.2 percent higher than that from the stand-wise inventory of the same forests (BULiGL, 2017, GUS, 2017). The overall standard error of volume estimation is 0.41% (BULiGL, 2015).

**Conclusion:** The NFI in Poland has been designed to be carried out on a permanent basis so as the time validity of the source data remains constant. The method proved to be highly reliable when compared to independently-gathered data from stand-wise inventory. Currently, results of the NFI, which are published every year, are the source for official statistical reporting on forests, both at the national and international levels.

## References:

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