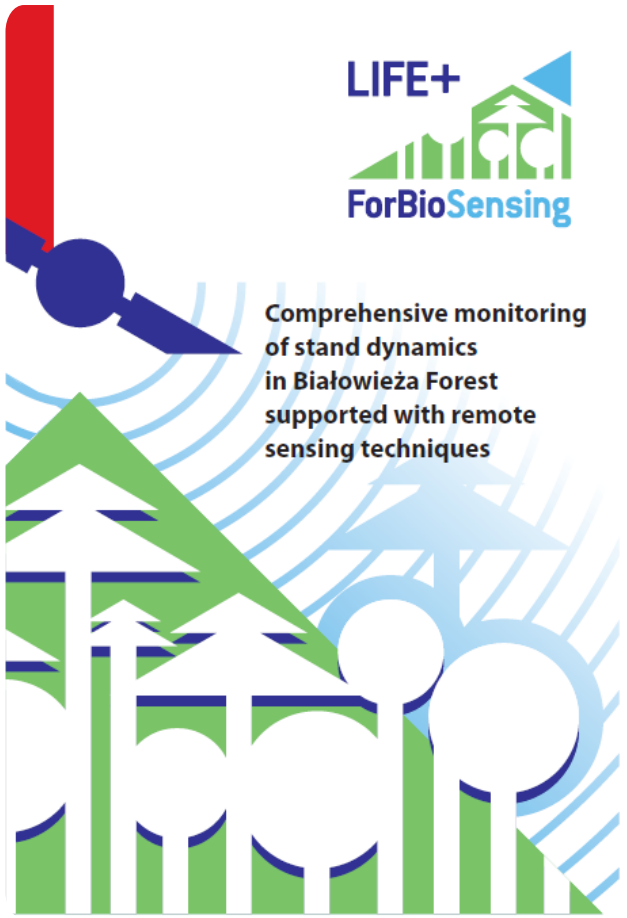
# ForBioSensing | Comprehensive monitoring of stand dynamics in Białowieża Forest supported with remote sensing techniques




***Comprehensive monitoring method of a large forest area with the use of innovative techniques and data.***

Project activities were focused on a comprehensive representation of changes in forest stands and their dynamics (using different time series of remote sensing data) and the transition from spot monitoring (field measurements on sample plots) to large-scale monitoring. This will improve the efficiency of forest ecosystem protection and management measures. Project results have been presented in the form of publications and maps showing specific changes over the years. In addition, radio and television broadcasts, meetings, brochures and promotional films were used to inform the general public.

The main objectives of the project were:

- Monitoring of stand dynamics in Białowieża Forest (including analysis of tree species composition, monitoring of changes in the forest stand caused,

among others, by tree death)

- Analysis of natural forest regeneration and rejuvenation, including the role of gaps,
- Establishment/determination of the combination of different remote sensing techniques and data sets that are optimal for forest monitoring,
- Characteristics of the microclimate of the Białowieża Forest,
- Promotion of Białowieża Forest through the use of multimedia.

The main expected results of the project:

- Detailed analysis and maps showing in subsequent years, following information about the Białowieża Forest: Forest stand characteristics (growing stock and biomass, tree height, DBH, canopy cover and its diversity, forest diversity, tree species composition, vertical structure, biomass, etc.), location and size of dead trees, location and size of gaps, dynamics of natural forest regeneration and amount of lying dead wood.
- Map of plant communities with identification of different tree species;
- Development of monitoring methods for the dynamics of the Białowieża Forest using a small number of sample plots and additional remote sensing data covering the entire study area;
- Master tree ring chronology of the selected tree species in the Białowieża Forest;
- A unique geoportal containing created spatial data on the Białowieża Forest.

## DETALJER

### OPPRINNELSE FOR TRE

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### TYPE TRE

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### TYPE TRE INVOLVERT

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### PåVIRKNING På MILJø OG BIOLOGISK MANGFOLD

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### INNTEKTSEFFEKT

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### UTNYTTELSESPOTENSIAL

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### HUB

Central-East Hub

### ØKONOMISK PåVIRKNING

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### SPESIFIKKE KUNNSKAPSBEHOV

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### MOBILISERINGSPOTENSIAL

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### BæREKRAFTPOTENSIAL - VERDI

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### ENKEL IMPLEMENTERING

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### ENKEL IMPLEMENTERING - EVALUERING

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### VIKTIGE FORUTSETNINGER

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### TYPE BEGIVENHET DER DENNE BPI HAR BLITT OMTALT

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### EFFEKT På ARBEIDSPLASSER

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### KOSTNADER MED IMPLEMENTERING (EURO - €)

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## MER INFORMASJON

UTFORDRING ADRESSERT

1. Forbedre skogens robusthet og tilpasningsevne til klimaendringer

DOMENE

Inventering, vurdering, overvåking

TYPE LØSNING

Data plattformer og tilsvarende

NØKKELORD

stand dynamics monitoring; forestry; remote sensing; biodiversity

DIGITAL LØSNING

Ja

INNOVASJON

Ja

OPPRINELSESLAND

Polen

POTENSIALE

Nasjonal

START OG SLUTT åR

2014 - 2022

## KONTAKT INFORMASJON


EIER ELLER FORFATTER

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RAPPORTØR

**Łukasiewicz Research Network - Wood Technology Institute**

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## REFERENCES AND RESOURCES

HJEMMESIDE (HOVEDSIDE)

http://www.forbiosensing.pl/home

RESSURSER


**Stereńczak K., Mielcarek M., Modzelewska A., Kraszawski B., Fassnacht F.E., Hilszczański J. 2019. Intra-annual Ips typographus outbreak monitoring using a multi-temporal GIS analysis based on hyperspectral and ALS data in the Białowieża Forests. Forest Ecology and Management, 442: 105–116.**


PROSJEKTETS HJEMMESIDE

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## REFERANSE TIL PROSJEKT

ForBioSensing project is co-funded by the European Commission under European Union financial instrument LIFE+ and by the National Fund for Environmental Protection and Water Management

LOGO FOR BESTE PRAKSIS

LOGO FOR HOVEDORGANISASJON

PROSJEKT SOM DETTE FAKTAARKET ER OPPRETTET UNDER

Rosewood 4.0

INNLEGGSDATO

21 des 2021

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 862681

A TOOL FROM ROSEWOOD 4.0, DESIGNED AND DEVELOPED BY