

Spruce Bark Beetle situation in Finland and project PREPARE

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European spruce bark beetle calamities in Central Europe and the threatening risk for Finland – webinar, May 13th, 2022











Spruce for the spruce bark beetle (SBB) in Finland

Forest industry in Finland relies on only three commercially important tree species:

spruce (*Picea abies*), **pine** (*Pinus sylvestris*) and **birch** (*Betula pendula*).

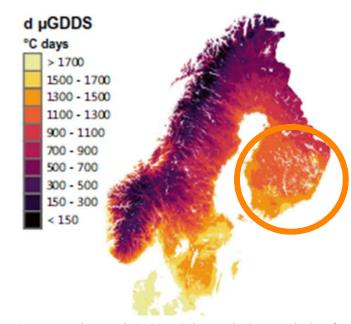
Spruce is favored in forest regeneration:

- avoidance of browsing by moose (Alces alces)
- efficient forest regeneration chain for spruce planting
- constant demand for spruce in forest industry

In addition, silvicultural tradition of planting single species stands (changing).

Spruce seedlings planted today face warmer summers, dryer sites, milder winters and longer growing seasons by the time they reach their 50th birthday during 2070's.

Thermal sum accumulation



Source: Aalto et al. 2022. High-resolution analysis of observed thermal growing season variability over northern Europe. *Climate Dynamics 58: 1477-1493*

Monitoring SBB situation: three data sources

LUKE

NFI 13 – National Forest Inventory

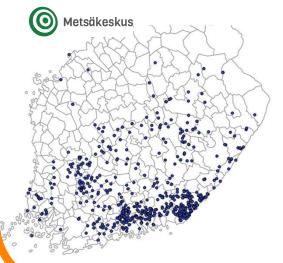
Kirjanpainaja

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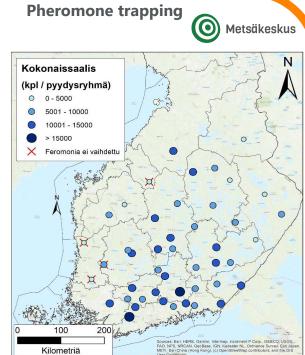








Note: number of trees killed by SBB is generally low per hectare.



SBB situation in Finland

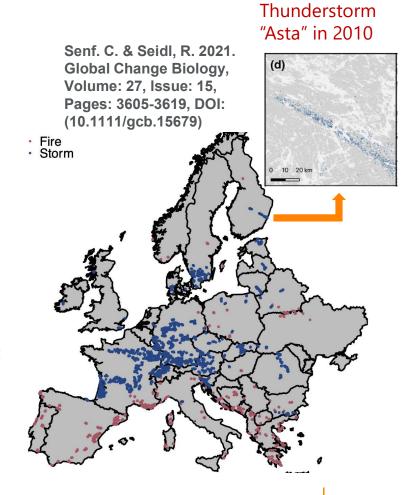
Local small infestations, groups of trees

Windthrow driven infestations

Commonly infestations start from clear cut edges -> sanitation logging to remove trees that can spread beetles to the surrounding trees.

Warm south and southeastern areas most problematic

Warming climate and massive outbreaks in Central Europe worry – Finland has to prepare.

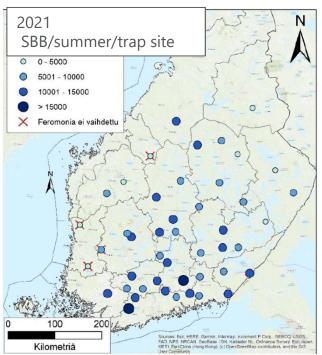


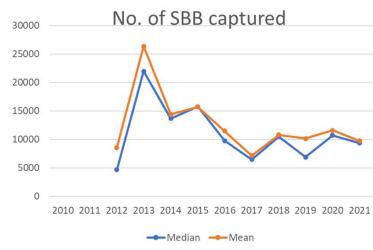


SBB monitoring with pheromone traps









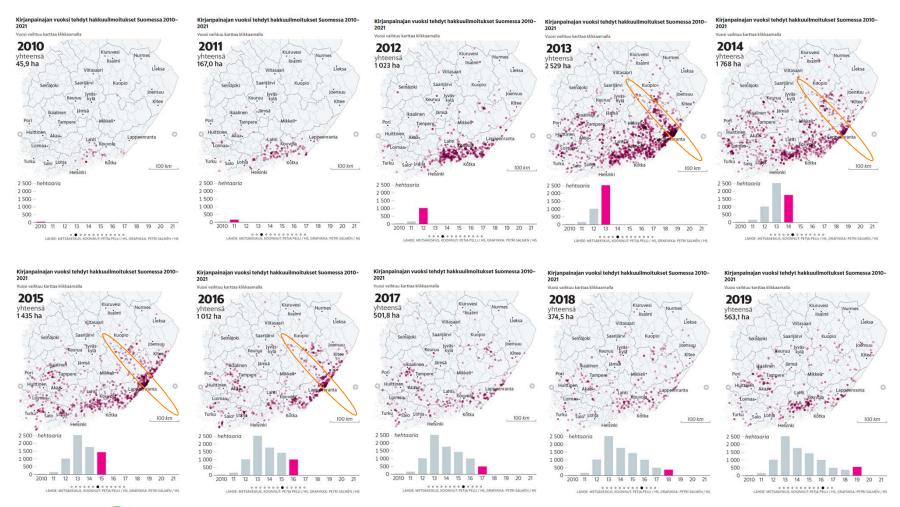
Location: winter time logged area, south facing, sunny, spruce dominated forest edge



Photo: Markku Rantala / Luke

Old drainpipe traps lured with Ipsowit (Witasek) 2012 - present

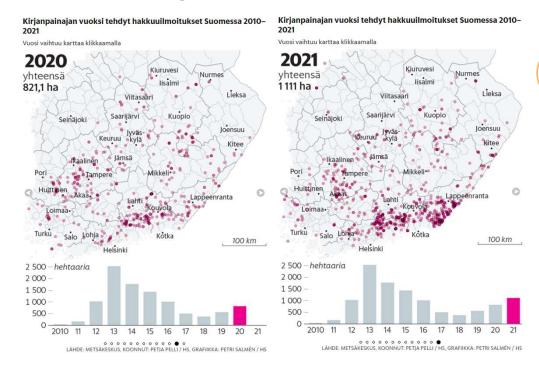




Source: Metsäkeskus Forest Centre

Compiled by Petja Pelli / Helsingin Sanomat & Graphics: Pertti Salmén / HS

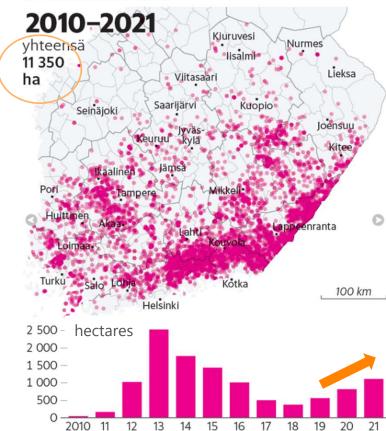
Felling notices due to SBB



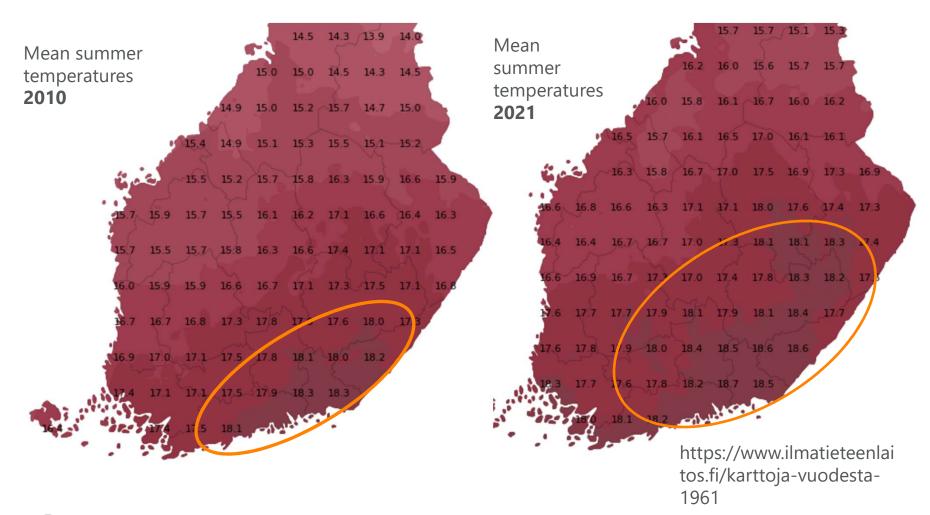
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Kirjanpainajan vuoksi tehdyt hakkuuilmoitukset Suomessa 2010– 2021





LÄHDE: METSÄKESKUS, KOONNUT: PETJA PELLI / HS, GRAFIIKKA: PETRI SALMÉN / HS





What do we do so far to keep the SBB populations at **low levels? Forest Damages Prevention Act** Metsäkeskus

Finland is divided into areas A, B and **C** on the basis of the **occurrence of insects** causing forest damage and the **thermal sum**

The law restricts the summer storage of spruce timber in and around the forest to keep SBB populations at low levels.

Damaged spruce trees from which the insects can spread need to be removed from the forests if there are > 10 m³/ha of them (one can leave 10 m^3/ha

MAP: spruce timber felled between Sep 1 May 31 has to transported away from the felling and intermediate storage site not later dates indicated for the areas A, B and C:

Area A: Spruce timber felled between June 1 and Aug 31 has to be transported away from the felling and intermediate storage site within 30 days from the

time of felling.

B: July 24th

C: August 15th

A: July 15th



PREPARE Preparedness for emerging pest risks

The project is carried out with funding by the European Union via the Technical Support Instrument, in cooperation with the Directorate-General for Structural Reform Support of the European Commission

The support was requested by



additional funding to support the implementation from



The implementation:





Commission



PREPARE "staff" in Finland



Päivi Lyytikäinen-Saarenmaa Risto Päivinen Henry Schneider Varpu Kuutti









"Juniors" Aleksi Flyktman Karolina Haikoski





+ experts

Gernot Hoch, Austrian Research Center for Forests **Maarten De Groot**, Slovenian Forestry Institute













Risk management cycle for

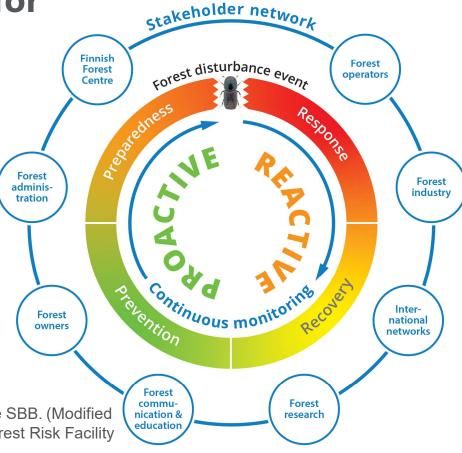
PREPARE

The aim:

Contingency plan/Preparedness plan for Finland for increased SBB damages

Timeline 1 year (2022 –2023)

PREPARE Forest risk management cycle for the SBB. (Modified from the crisis management cycle, European Forest Risk Facility 2020)



Thank you!



