

Implementation of innovative forest regeneration procedures on large-scale clearings with regard to the support of biodiversity

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Background

The extreme drought in recent years and the associated bark beetle outbreaks have led to a dramatic increase in harvested volume of wood (Fig. 1) and the formation of large-scale clearings (Fig. 2). The Czech forestry has thus found itself in an unprecedented situation, when it is necessary to establish new forest stands on a large area, resistant to predicted climate change and at the same time fulfilling all ecosystem and economic functions. The knowledge schemes used so far are difficult to apply in these circumstances.

Forestry and Game Management Research Institute (FGMRI) together with Forest Cooperative of Municipalities (FCM) Přibyslav is now working on the project **"Implementation of innovative forest regeneration procedures on large-scale clearings with regard to the support of biodiversity and increasing the functionality of forest ecosystems"**.



Fig. 3 Two-phase regeneration using nurse stand formed by silver birch (*Betula pendula*)

Aim of the project

is to implement a pilot forest restoration on calamitous clearings on the forest property of FCM Přibyslav leading to higher species, age and spatial diversity of emerging stands and promoting biodiversity through the preserving of habitat trees and active management of dead wood. This will provide an example of good practice for other forest owners whose property has been affected by bark beetle outbreak.

Solution period 15/4/2022-30/4/2024

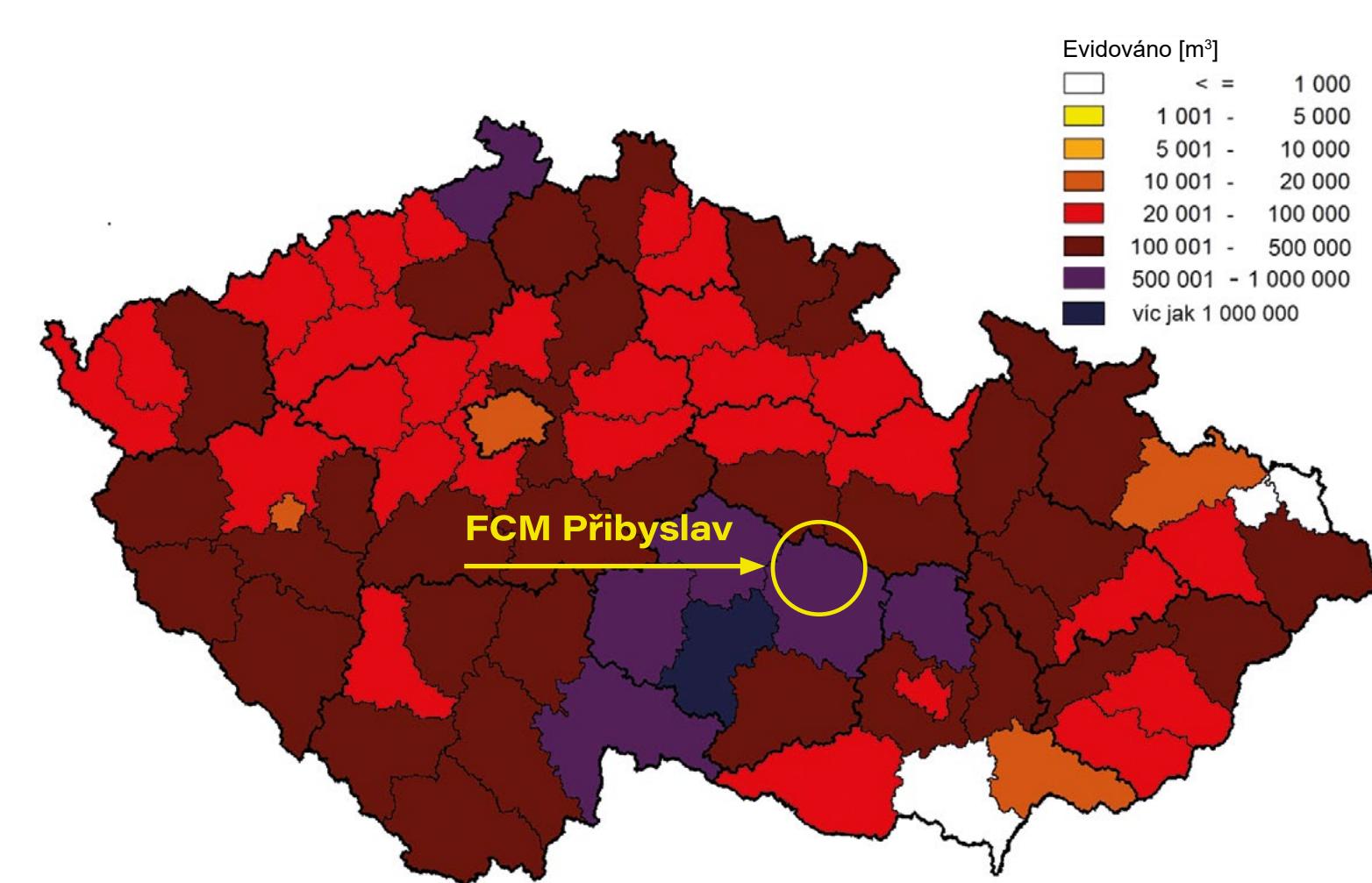


Fig. 1 Recorded volume of spruce wood [m^3] infested by bark beetles in 2020 in individual districts of the Czech Republic.



Fig. 2 Large-scale clearing on the cooperative's forest property (FCM Přibyslav)



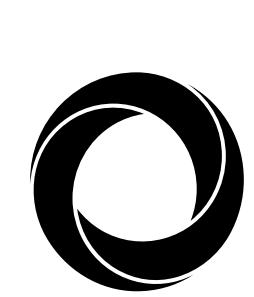
Fig. 4 Unconventional tree species mixture formed by cherries and birches



Fig. 7 Habitat tree

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Fig. 5 Advanced restoration element (beech gap) in the spruce stand



Fig. 6 Logging residues left on piles



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