

# Regional seed mixtures

as an effective tool for protecting the diversity of grassland habitats

**Tereza Štochlová**

**Czech Union for  
Nature Conservation**





# What are regional seed mixtures



- most grasslands ploughed → regrassed with species-poor mixtures
- species-rich mixtures often unsuitable - exotic species
- solution: locally collected seeds





# Situation before the project

- public interested in the topic
- methods are known
- various experience with grassland restoration
  
- sites for seed collection unknown - small area
- minimal experience with smaller harvesters
- data-based comparison of methods needed
- economic aspects





# Project partners



Přírodovědecká  
fakulta  
Faculty  
of Science

Jihočeská univerzita  
v Českých Budějovicích  
University of South Bohemia  
in České Budějovice



MUNI  
PŘÍRODOVĚDECKÁ  
FAKULTA



Høgskulen  
på Vestlandet



STÁTNÍ FOND  
ŽIVOTNÍHO PROSTŘEDÍ  
ČESKÉ REPUBLIKY





# Main goals

- finding suitable donor sites for seed collection
- comparing different methods of seed collection - brush harvesters, green hay, threshing
- heighten public interest in regional seed mixtures

**GRASSLAND RESTORATION MORE  
AVAILABLE AND ECONOMICALLY  
FEASIBLE**



Databases



Seed data



Public  
awareness





# Activities

- botanical monitoring
- seed collection
- samples analysis
- sowing







## Database of species-rich grasslands

- White Carpathians vs. rest of the Czech Republic
- suitable sites for seed collection
  - various environmental conditions
  - various vegetation types
- easy access when planning grassland restoration

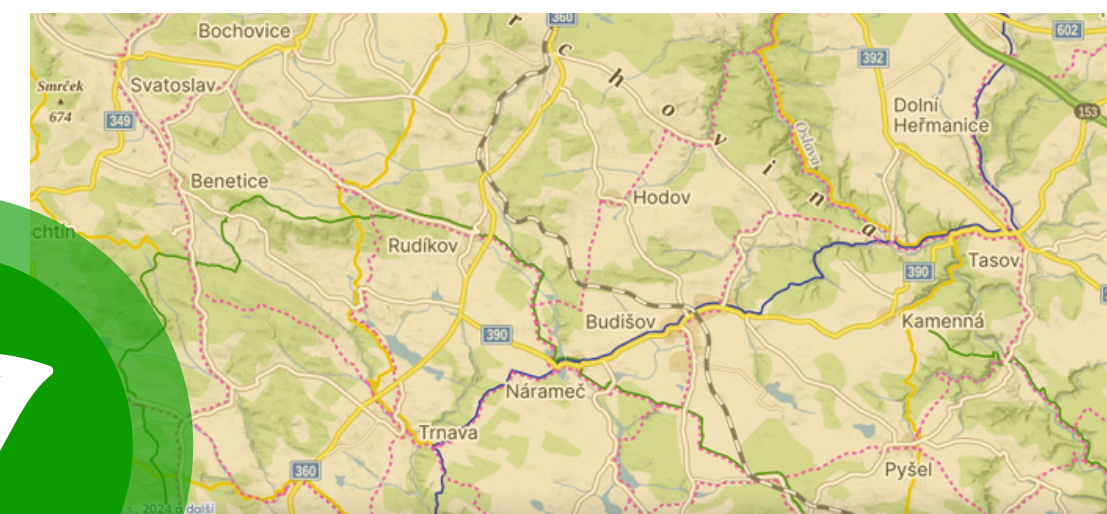
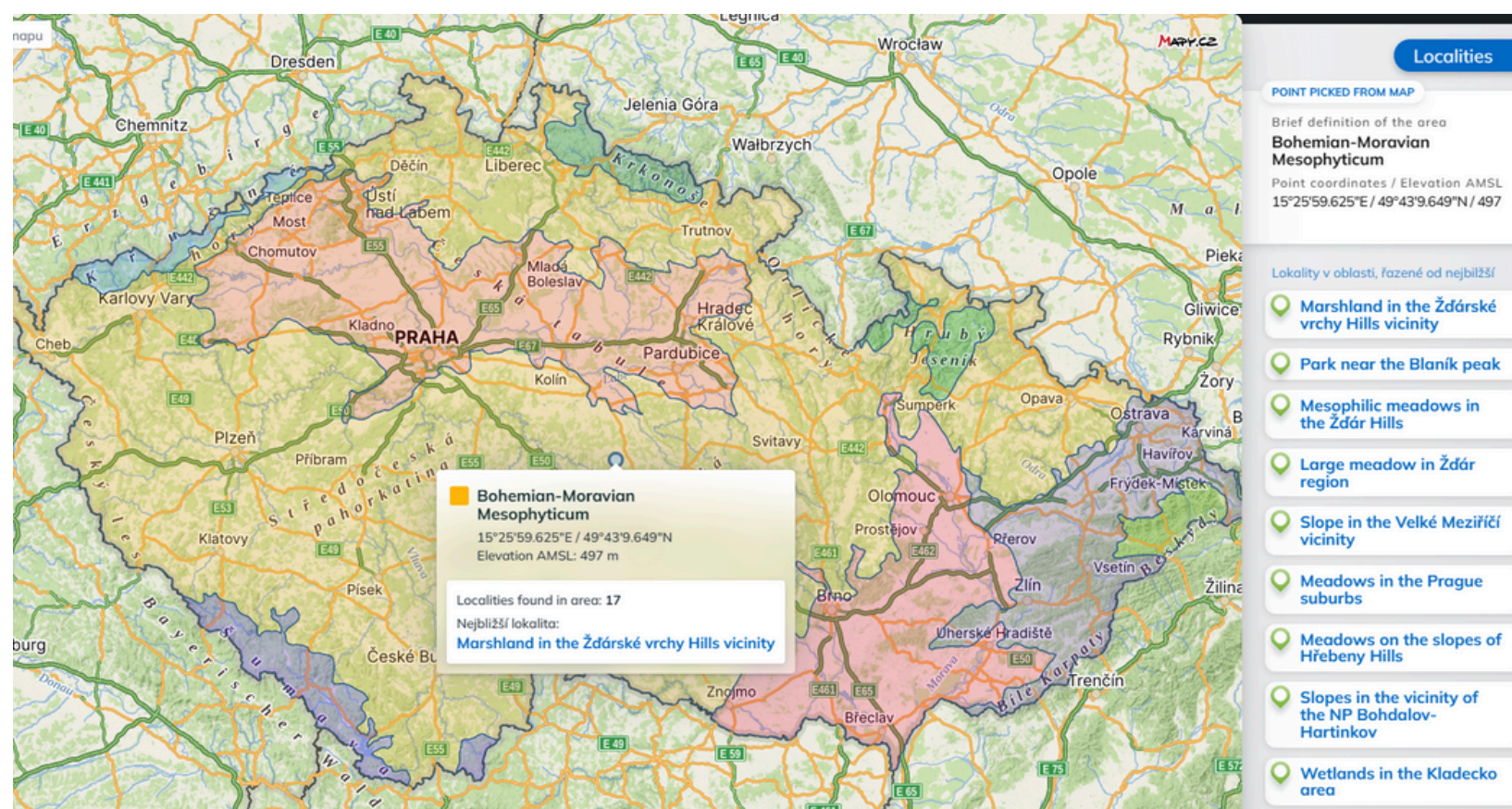
**LOUKY.CZ**





# How does it work?

- shows sites from the nearest one to receptor site
- does not show exact position of sites to protect the owners



Site overview

## Slope in the Velké Meziříčí vicinity

Žďár nad Sázavou

Vysočina Region

Bohemian-Moravian Mesophyticum

Plant communities: Bear with us please, we are preparing more info about the vegetation.

Terrain obstructions: none • Terrain steepness: low • Growth height: unknown

Methods of collecting: green hay • manual collection • using a brushcutter

Protection status: None

## Site overview

- plant species and community
- terrain
- methods of seed collection
- protection status
- contact





# Brush harvesters



Tractor harvester  
ZO ČSOP Bílé Karpaty



Pushed harvester  
Wiesefix - Neisser Geoprodukte  
GmbH, Germany  
Grass Grabber, Australia



Hand Held harvester  
GP Restoration Solutions,  
Canada





# Other methods

## Green hay

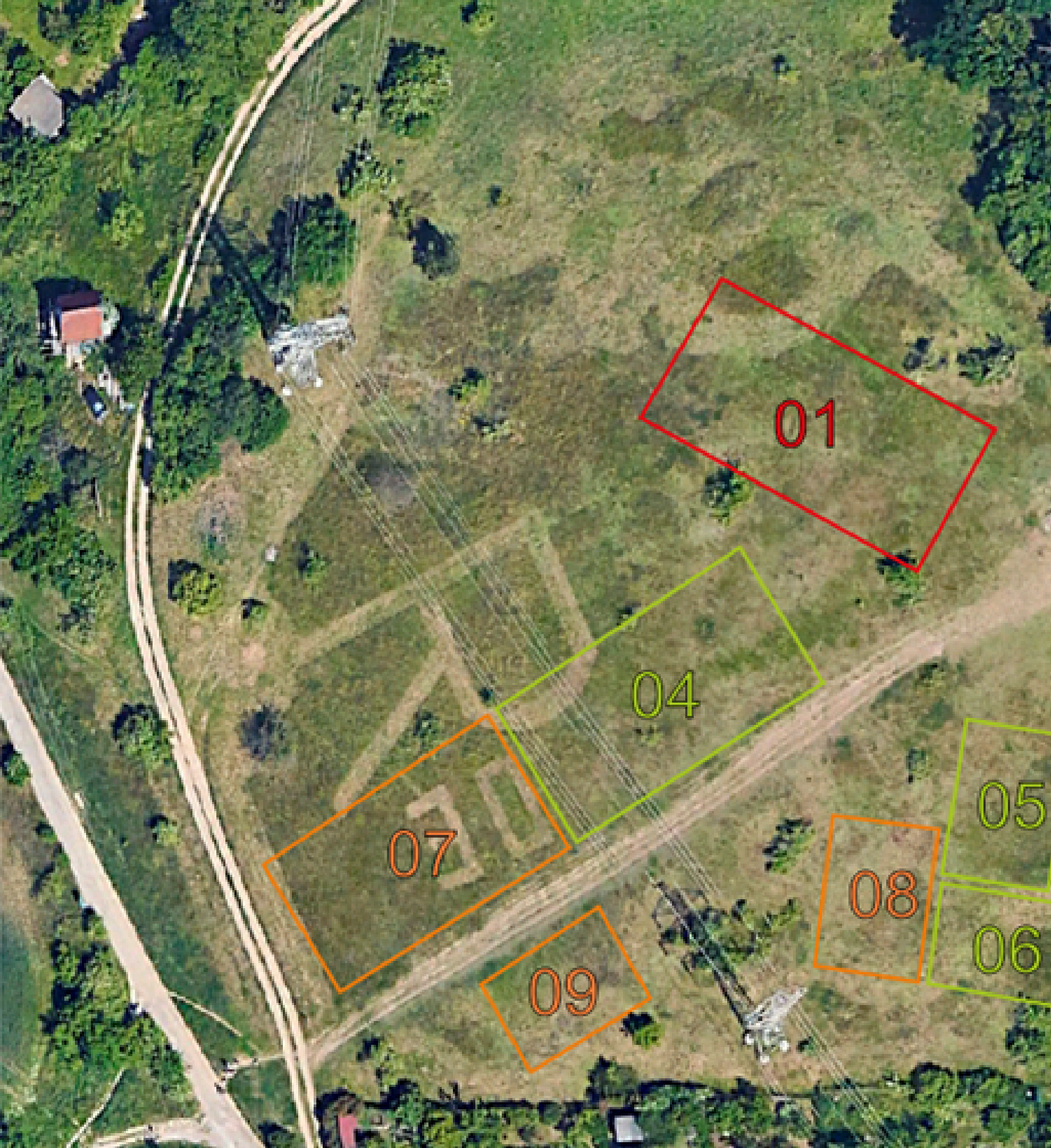
- Biomass directly transferred from source sites to the field being restored
- (Alternative: dried biomass)



## Thresh material

- Hay threshed on stationary threshing machine, sown later







# Zelená Hora Receptor Site– experimental design

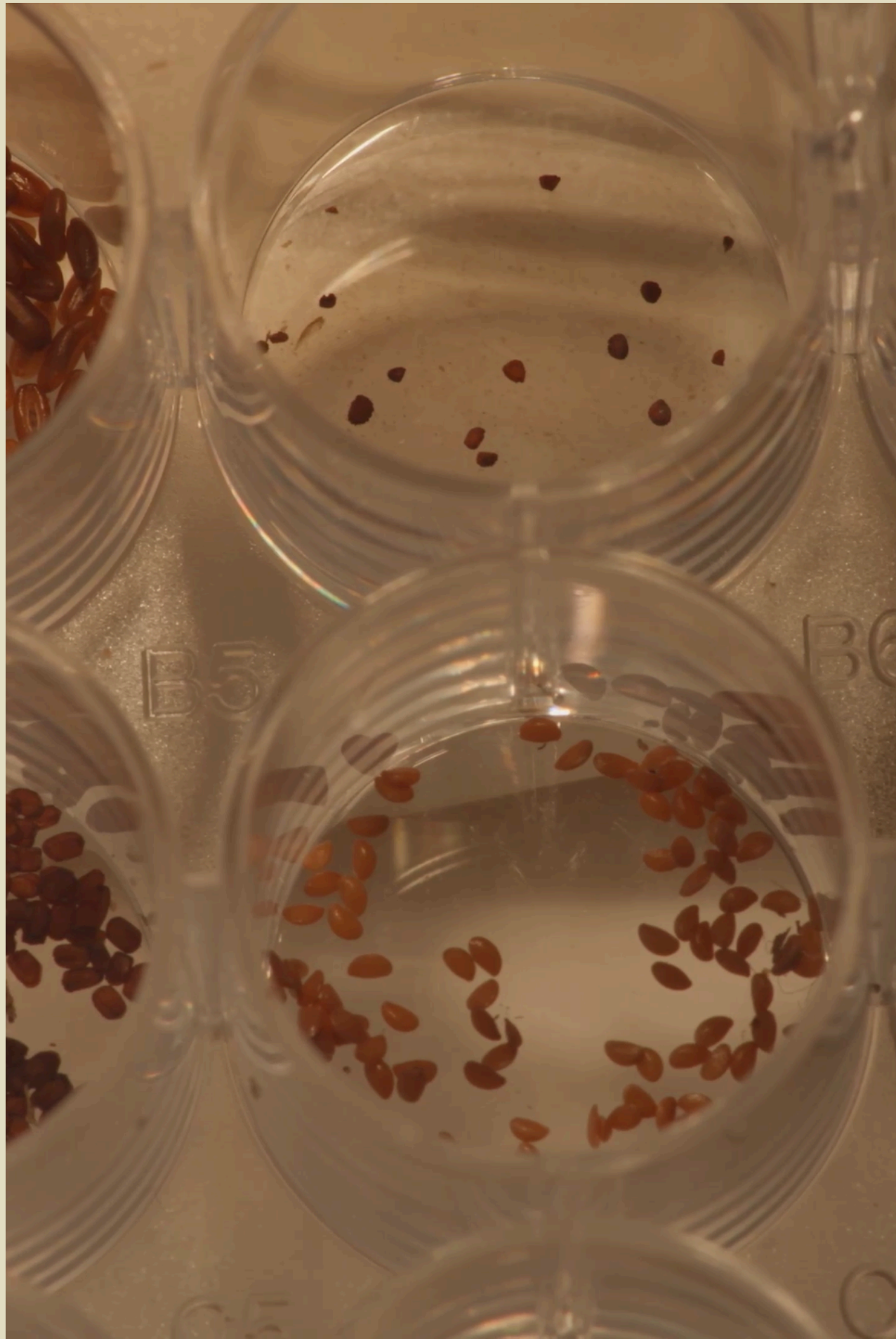
	12 m	12 m	8 m	
July	Thresh material 7200 g	336 g	112 g	8 m
August	112 g	336 g	MIX 43 g 43 g 43 g	12 m
September	112 g	336 g		12 m

Sowing rate 8 x 8 m plots – lower 2g/m<sup>2</sup>  
 – higher 6 g/m<sup>2</sup>  
 Sowing rate „MIX“ – 2 g/m<sup>2</sup> and Thresh material – 50 g/m<sup>2</sup>

	8 m	12 m	
July	July 1:1	July 1:3	12 m
August	August 1:1	August 1:3	Fytoc. relevé 16 m <sup>2</sup> 4 m
September	September 1:1	September 1:3	
Spont.succes.		Mix hay	











# Project overview



Databases



Seed data

**SUITABLE SITES**

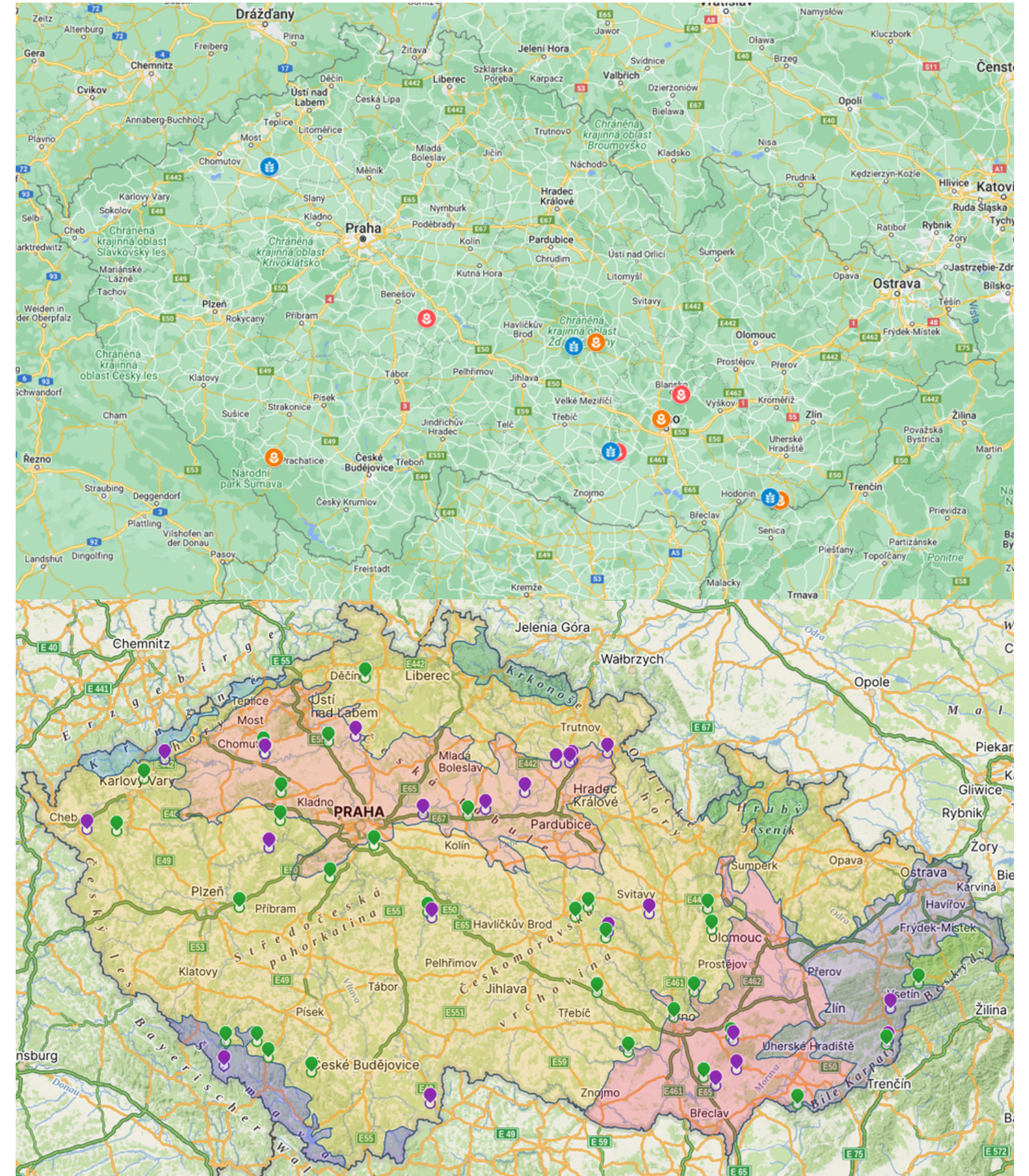
**SOWN SITES**

**VEGETATION DATA**

**METHODOLOGY OF ASSESSMENT OF SUIABLE SITES**

**METHODOLOGY OF HARVESTING**

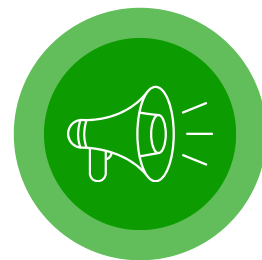
**PREDICTION PROGRAMME**







# Project overview



Public awareness

LOUKY.CZ

WORKSHOPS

VIDEOSPOTS



**Český svaz ochránců přírody**

Videa a příspěvky Základních organizací ČSOP či činnosti spojené s programy ČSOP a ochranou přírody. Více na stránkách [www.csop.cz](http://www.csop.cz)

YouTube







# Next steps

## Harvesters

- enhance efficiency
- build new machine

## New projects

- unsolved questions
- genetics
- effects on insects

## Cooperation

- various subjects
- supply-demand ratio





# Database of suitable sites



## **New sites**

expansion of the database

## **Certification process**

working group

## **National programme**

cooperation with state  
agencies





# Next steps

## Long-term strategy

- economically viable
- self-sufficient programme
- smaller cooperations in the meantime

**LOUKY.CZ**





# Regional seed mixtures

**Tereza Štochlová**  
tereza.stochlova@csop.cz  
603 387 734

[www.csop.cz](http://www.csop.cz)  
[www.louky.cz](http://www.louky.cz)



**THANK  
YOU**