

**ALPTREES Activity A.T3.3. / Deliverable D.T3.3.1 Assessment report on the usage  
value of wood from local autochthonous native trees and non-native trees**

**REPORT ON THE USAGE VALUE OF WOOD AND MANUFACTURING OF  
PRODUCTS FROM LOCAL AUTOCHTHONOUS NATIVE TREES AND NON-  
NATIVE TREES  
IN THE FRAMEWORK OF THE ALPTREES PROJECT**

In cooperation with the Secondary School for Wood Processing and Forestry Maribor -

Lesarska ulica, 2000 Maribor

Maribor, 17<sup>th</sup> February 2022

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Report on work on the APTREES project (implementing educational activities in the field of using wood from non-native invasive tree species in the scope of the APLTREES project, contract 3540-5/2020-2, contracting authority: Mestna občina Maribor [Municipality of Maribor], Ulica heroja Staneta 1, 2001 Maribor) - item MAKING WOODEN PRODUCTS FROM THE WOOD OF NON-NATIVE TREE SPECIES

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Report content:

- a) Timber procurement for product manufacturing and difficulties at wood gaining**
- b) Useful smaller wooden products from non-native tree species**
- c) Preparing a virtual exhibition with the title: “Special stories of special trees”**

**A) Timber procurement for product manufacturing**

From the beginning of project activities, we have used different ways of obtaining wood from non-native and invasive tree species. Some of it was harvested by cutting down dangerous trees in the city (for example Paulownia tomentosa at the Maribor Puppet Theatre, Ailanthus altissima on the Piramida Hill (experimental area, where we

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Report on manufacturing wooden products from the wood of non-native tree species –  
as part of the ALPTREES project

experiment with different ways of preventing the growth of Ailanthus), in cooperation with Snaga, the public company for garbage disposal (removal of smaller pieces of trees that were cut in parks, near roads and houses, ...). However, systematic procurement of timber from non-native tree species can be difficult, as it is almost impossible to get larger amounts of it. This was the problem that we came upon when making bat houses, where we needed a larger amount of sawn timber from Robinia pseudoacacia. Although Robinia pseudoacacia is one of the most common non-native tree species, it was extremely difficult to get a sufficient number of wooden slabs, as they are practically non-existent on the market and have an extremely high price.

The wood, used for our products, was obtained exclusively during our project activities. The actual procurement of the wood took a lot more time than we initially planned. Lack of knowledge about the quality of wood was also very time consuming (e.g. Snaga workers called us to come pick up logs, while there were actually only branches at the site - picture 1.). Although it seems that there are a lot of non-native tree species and that their wood could be very useful, we actually faced a lot of problems when using this wood. In the end, this has increases the required time input, yet the added value was not that much higher.



*Picture 1: Completely useless wood for manufacturing products of any kind.*

## **B) Useful smaller wooden products from non-native tree species**

All manufactured products are completely unique, made according to special plans and templates (for example unique drums). All timber was cut on the school saw and was dried in the school's own timber dryer. Students could therefore witness the entire path of the wood - from being cut, over primary wood processing (sawing it to appropriate dimensions, drying, workshop processing), to planning and to final products. We are the only school in Slovenia, that independently ensures the entire wooden chain of forest timber.

The purpose of product manufacturing was: - holistic planning of product manufacturing and special emphasis on exploring the characteristics of wood from non-native tree species. Together with the students, we have determined positive and negative characteristics of processing the used wood types, which were unfamiliar to them up to now. At the same time, some types had to be proofed for health safety as some types of wood can be poisonous or dangerous. One student had an allergic reaction to *Ailanthus altissima*.

Wooden products from non-native tree species that will be part of the exhibition: **“Special stories of special trees:”**

### **❖ *UNIQUE WOODEN DRUMS***



*Picture 2: Unique drums made of wood from Paulownia tomentosa and Metasequoia glyptostroboides.*

Under the mentorship of wood processing teacher Stanko Sagadin, students made templates for the manufacturing of drums. They used the wood of Metasequoia glyptostroboides, cut in the botanic garden, and the wood from Paulownia tomentosa, cut in the yard of the Maribor Puppet Theatre. The drums are unique.





*Picture 3: The production of drums required a special template, created for this purpose.*

### ❖ *SWAN FENCES*

Fences that will protect swan nests near the Drava river were made from *Ailanthus altissima* that was cut on Piramida Hill. This seems as a good way to use the wood of this tree type. The wood, that would otherwise end up in biomass, was made useful. Before using it, the wood has to be completely dry, as there is always a chance of it sending out new shoots and growing new roots. The fences are tasteful and will protect swan nests from unwanted interfering factors. They were produced under the mentorship of Peter Burjek.





*Picture 4: Swan fences from the wood of *Ailanthus altissima*, cut on Piramida hill.*

❖ **THOUGHTS ON TREES**



*Picture 5: Thoughts on trees, written on *Paulownia tomentosa* wood.*

For production, we used classic as well as the most advanced tools, which are especially appealing to the students. This is how key rings with thoughts on *Paulownia tomentosa*

wood were created. Paulownia proved to be a very practical tree species to be used with a laser - a lot more than many other species.

### ❖ *BAT HOUSES*

The wood of *Robinia pseudoaccacia* was used for bat houses. Bats use these special houses for resting. Before bats choose their hiding place, the bat houses have to be set up on location for a longer period of time. Therefore, we have chosen the wood of *Robinia pseudoaccacia*, which is extremely hard, long-lasting and persistent in outdoor conditions. Since we needed a larger amount of wood, we had to buy the Robinia boards (in Središče ob Dravi; supplied from Croatia). Fact is, that it is almost impossible to get larger amounts of wood, although we know the suppliers very well. For cutting the hard wood of deciduous trees, a new and special saw blade had to be bought. When working with Robinia wood, the tools have to be sharp enough, as the wood contains special crystals (especially if the trees were growing near water) that damage the tools.

For the production of bat houses we have contacted the Slovenian society for bat watching and studying and have made very useful connections between their and our project activities.



*Picture 6: Bat houses from Robinia pseudoaccacia wood, which is very resilient in outdoor conditions.*

#### ❖ **UNIQUE SINK FROM WILD CHESTNUT TREE**

Unique product made from massive Wild chestnut tree was produced by students, under the mentorship of Boris Potočnik, teacher of practical wood processing. Although people believe that the wood of Wild Chestnut tree is not valuable and suitable for processing, beautiful products can be made of it.



*Picture 7: Unique sink made of massive wild chestnut wood.*

#### ❖ **DIDACTIC BLOCKS FROM VARIOUS TREE SPECIES**

Didactic blocks are made of different types of wood, that was used during project activities such as: Paulownia tomentosa, Acer saccharinum (cut in a tree avenue - Snaga), Corylus columna (cut in a tree avenue - Snaga), Ailanthus altissima. The blocks will be used for learning about differences between types of wood. They were made by teacher Mirjana Kumer and students.





*Picture 8: Block, made of different types of wood.*

❖ *SHOE STAND - in the final phase of production*

We have prepared a design for a wooden chair, made of non-native *Pinus strobus*. Dried wood is cut and prepared for final gluing and assembling of the chair.

The product is being made by students, under the mentorship of teacher Mirjana Kumer. *Pinus strobus* is extremely lightweight and is therefore suitable for manufacturing of children's chairs, which are hard and light.



*Picture 9: Idea design of children's chair and a product from Pinus strobus wood.*

❖ *SHOE STAND - in the final phase of production*

The product was made by students under the mentorship of teacher Mirjana Kumer.



*Picture 10: Shoe stand and product*

❖ ***DESK ORGANISER - in the final phase of production***

The product is being made by students, under the mentorship of teacher Mirjana Kumer. The desk organiser is made of different kinds of wood.



*Picture 11: Idea design of a wooden desk organiser and products.*

❖ ***MULTI-LAYER WOODEN PLANT STAND***

The product was made by students under the mentorship of teacher Stanko Sagadin.



*Picture 12 Multi-layer wooden plant stand.*

❖ ***COASTER FROM MAGNOLIA X SOULANGEANA***

When cutting the wood, students noticed extremely decorative and aesthetic wooden discs and made a coaster from them. The wood comes from the branches of *Magnolia x soulangeana* and has a beautiful pink centre.



*Picture 13: Coaster from Magnolia x soulangeana*

### ❖ *CAJON DRUMS*

The Cajon drums were made from the wood of *Poulownia tomentosa*, cut in the backyard of the Maribor Puppet Theatre. The front of the cajon drums is decorated by various types of veneer, glued together. The drums were made by students under the mentorship of teacher Stanko Sagadin.





*Picture 14: Cajon drums frame and glued veneers for decorative front panel.*

**C) Preparing a virtual exhibition with the title: “Special stories of special trees”**

Epidemiological situation disabled regular schooling, therefore there were delays in the manufacturing of products. Longer absences of teachers, quarantines of entire classrooms and a delay in achieving curriculum goals are the reasons that have contributed to the above mentioned delay. We will prepare a virtual exhibition with the title: “Special stories of special trees”, published on the web site of the Secondary School for Wood Processing and Forestry Maribor. (<https://srednja.lsmb.si/>)