

Enclaves of Life (Enklávy života), 2020-1-CZ01-KA205-077463

<b>Name of the place: Punkri</b>			
<b>Chaga example</b>			
<b>Basic information</b>			
Cadastral zone	50401:003:0008		
Land register reference	1754637		
Owner	Taavi Ehrpais		
Contact	taavi.ehrpais @ erametsaliit.ee		
Latitude GPS	59.021953, 24.328061		
Area	1,64 ha		
Altitude	37m		
<b>Description of wider relations</b>			
Growing culture	Middle-aged birch and alder mixed forest. Oxalis drained swamp type wet forest.		
The nature of the land	Forest, close to a forest road, partly wet with some old drainage ditches. Land has some natural dips in it.		
Current use	<i>Private, managed forest</i>	Comm.:	
Water or water source	high groundwater level, both natural and man made ditches in this area		
Territorial relations	Forest area is under landowner management, private property		
Forest management plan (FMP)	Yes	Valid thru	
Age: in %	Birch	35 years old	85%
	Black alder ( <i>Alnus glutinosa</i> )	35 years old	10%
	Pine	35 years old	5%

<b>Biota – forest cover and its inhabitants</b>		
<b>Vegetation as from resources</b>		state
Variation of the tree species	85% of the forest is birch. 10 % of the area is black alder and 5% is pine.	
Original natural vegetation	Potential natural vegetation is related to the peat bogs that surround the forest. But trees in this place are planted.	
Potential natural vegetation	Spruce and spruce-birch mixed forest could grow there naturally. The land is good for pine also.	
Forest stand:	Tree layer:	<i>Silver birch (Betula pendula), Black alder (Alnus glutinosa), Scots pine (Pinus sylvestris)</i>
	Shrub layer:	Different fern species, blueberry
	Herb layer (description):	ground elder ( <i>Aegopodium podagraria</i> ), coltsfoot, ( <i>Tussilago farfara</i> ), wood anemone ( <i>Anemone nemorosa</i> ), Liverleaf ( <i>Hepatica nobilis</i> )
<b>Fauna – remarkable, known-but-not-seen</b>		
Vertebrates	Moose ( <i>Alces alces</i> ), common frog ( <i>Rana temporaria</i> ), red squirrel ( <i>Sciurus vulgaris</i> ), wolf2 ( <i>Canis lupus</i> ), brown bear ( <i>Ursus arctos</i> ), different woodpeckers, common blackbird ( <i>Turdus merula</i> ), white wagtail ( <i>Motacilla alba</i> ), goldcrest ( <i>Regulus regulus</i> )	
Insects	Ticks ( <i>Ixodida</i> ), ants ( <i>Formicidae</i> ), wasps ( <i>Vespula vulgaris</i> ), ladybugs ( <i>Coccinella septempunctata</i> ), birch bark beetle ( <i>Scolytus ratzeburgii</i> ), Dor. ( <i>Geotrupes stercorarius</i> )	

	Snails (Gastropoda) - presumed common species of the boreal forest	

## **Forest as a cultural aspect of the landscape**

### **PAST**

#### **Culture**

What has influenced the forest so far, is it somehow connected with the culture of the surrounding environment, is it part of the cultural development of the landscape?

- Ditches, drainage
- Simple forest paths around the forest massive
- Transformation of natural forest into productive forest
- Multiple generation managed forests

#### **Civilization**

What is the relationship between the forest and civilization now, how does the civilization reflect on its state and development?

People are more urbanised than ever; this study plot is in the middle of the big forest massive so there are not lot of people visiting those kinds of forests. People visit forests that have nice roads and signs in the middle of the forest. The forest is long time used mainly for the production of wood (construction and fuel) and also for hunting.

#### **Story**

Origin of the relation

*People were always strong connected to this forest - the owner is a fifth generation forester who works on this area. The most obvious way to use this forest was to get timber, firewood and food (mushrooms, berries, etc.).*

### **PRESENT**

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<p>Nowadays the forest owner tries to find other income sources than timber selling. A new alternative occurred few years ago - chaga. Chaga is a fungus and parasite which occurs naturally on birches, but is not very common in nature. The owner tries to infect trees (mostly birches which can't be used for timber production) with this fungus in a controlled manner. Chaga can be sold in 10 years after the infection.</p>		Notes and questions
<p><b>Natural side of present development</b></p>		
	<p>The trees are not cut down, they are able to live with the chaga fungus for at least 30years more, biodiversity will not be reduced by logging</p>	
<p><b>Threats and limits</b></p>		
	<p>EU or Estonian laws which doesn't allow to deliberate destruction of the forest by applying a parasite into the trees.</p>	
<p><b>FUTURE</b></p>		
		Notes and questions
<p><b>Natural side of present development</b></p>		
	<p>There won't be any logging in this particular part of the forest. Potentially biodiversity will increase</p>	
	<p>Birds will have places for nesting, insects will have a natural place for living, potential plant sites won't get destroyed by using heavy harvesters</p>	
<p><b>Threats and limits</b></p>		
	<p>The nature is constantly changing and it's hard to predict, how the forest biocenosis will adapt for the presence of the parasite - Chaga. The</p>	

	fungus can go out of control and infect and affect other healthy trees (invasive spreading).	
	It's hard to predict if the EU or Estonian (local) law will change and allow to create chaga plantations.	
	There are some research which are showing the connection between chaga and occurring of the white wood rot, which lowers the value of the timber as material.	
	As the chaga is a parasite, it is debilitating the trees. There is a big possibility that a weak and unhealthy forest will be more affected by beetles and other diseases. The risk may be posed by the uncontrolled spread of diseases caused by wood-destroying fungi even outside the "Chaga-production forest"	
<b><i>Intention of the forest activist</i></b>		
Expectations	No logging, get the money without cutting out the forest, keep the biodiversity of the place, use trees which has low (or no) value in wood market	
What will my forest provide to people	chaga, carbon capture, ecosystem services, biodiversity	
Plan – in 10 years	Harvest the first round of chaga	
Plan – in 100 years	The infected trees will probably be dead. Plant a new forest	
Who do we need to reach the goal?	Forest owner, clients for chaga	

<b>Proposals and steps</b>		
<b>What</b>	<b>Legend</b>	<b>Who</b>
To create a chaga forest	<i>We need to have forest; we need birch as the main species of the forestland. The birch has to be minimum of 10 cm of diameter. We need to screw in the dowels</i>	<i>ChagaHealth or any other company who will sell the dowels</i>
Preparation of the forest	<i>Choose birches with at least 10cm diameter</i>	<i>landowner</i>
Infecting the trees	<i>Screw the dowels with chaga spores into the chosen trees</i>	<i>Chaga Health or other company who will sell it to us.</i>
Wait 10 years and harvest the chaga	<i>Harvesting chaga and sell it to a company</i>	<i>Company who will buy it from us</i>

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Wait another 10 years to cut chagas again	<i>Harvest chaga again and sell it</i>	<i>Company who will buy it from us</i>
Waiting another 10 years	<i>Cut the grown chaga and sell it to a company</i>	<i>Company who will buy it from us</i>
Plant another forest	<i>Remove the infected dead birches and sell them as firewood from your forest, prepare the area for planting, plant new trees (birch)</i>	<i>landowner</i>
Wait 20 years and start from the beginning	<i>After 20years the planted new birches should achieve the diameter of at least 10cm. If you wish to start the chaga business once again, it will be the good time for it</i>	

**Monitoring the development**

Time		
27.04.2022	Put the dowels in	
27.04.2032	Take chaga out	
27.04.2042	Take chaga out	
27.04.2052	Take chaga out	

<b>Inspiration</b>		
Literature	ChagaHealth Estonia / <a href="https://chagahealth.eu/">https://chagahealth.eu/</a>	
	<a href="https://naturalchaga.eu/pages/faq">https://naturalchaga.eu/pages/faq</a>	
	<a href="https://organicestonia.ee/member/natural-chaga/">https://organicestonia.ee/member/natural-chaga/</a>	
Heard around		
Meetings	27.04 and 28.04 2022	
Discussions within the project team	27.04 and 28.04 2022	