

The Pineta Forest Park surrounds the old town center of Labin, which is protected as a cultural asset and is part of the significant landscape "Labin-Rabac-Prklog".

Pineta is dominated by black pine.

Age is estimated at more than 120 years.

Research Question and Hypothesis

Our GLOBE group back in 2003. worked on the project

"ARE THE PINE FOREST AROUND LABIN DYING?"

so we decided after twenty years, to re-investigate the state of Pineta.

We assume that the situation is worse than in 2003. because the forest has not been restored in the past twenty years, and the "pressures" on it have increased many times over.

Research questions:

Is renovation necessary "URGENTLY,,?"

Can Pineta continue to wear the epithet "THE NOBLE CLOAK OF THE OLD TOWN CORE OF LABIN,,?"

Research Methods and Materials

24 GLOBE group students participated in the research,

divided into six teams of four students each.

Excellent team cooperation was achieved.

Cooperation was achieved with the Forestry Institute from Zagreb, the City of Labin, the department for spatial planning and environmental protection and the department for communal economy and property management.

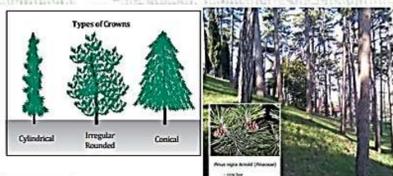
Results and data analysis

GEOGRAPHICAL DATA OF THE SAMPLING PLACE



LOCATION	GEOGRAPHICAL LATITUDE N	GEOGRAPHICAL LONGITUDE E	HIGH ABOVE THE SEA LEVEL m
M1	45.085838°	14.123680°	289
M2	45.085778°	14.126041°	303
M3	45.085096°	14.125075°	273

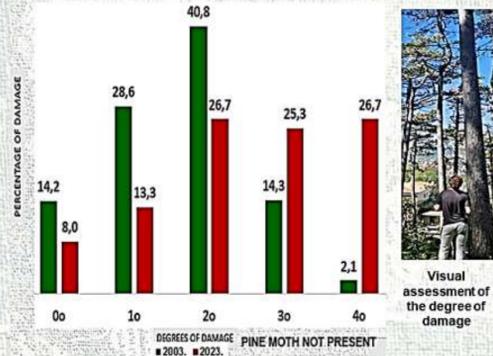
MUC - COVER CLASSIFICATION



THE AGE OF THE FOREST

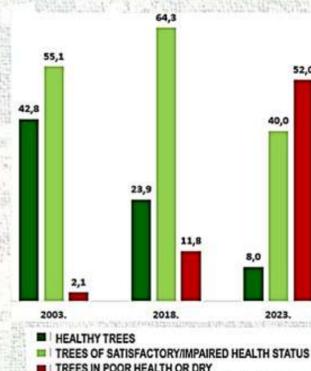


THE DEGREE OF DAMAGE TO CROPPING AND INFECTION OF TREES WITH PINE MOTH



The percentage of damaged and dead trees is 52%, and according to the health status, only 8% of trees are healthy, which is significantly worse than in 2003.

PINETA'S HEALTH CONDITION



Discussion

The results show that the health condition of the trees in Pineta has been deteriorating over the years, and today it is alarming because only 8% of the pine trees are healthy.

The age of the forest has been confirmed to be more than 120 years.

Since the results of the composition of the forest, soil properties and the possible influence of pollutants have not changed significantly over the years, we conclude that the reason for the poor condition is the age of the forest, which has never been restored.

SOIL ANALYSIS



Taking a soil sample and determining the type of soil.

In the past twenty years, the properties of the soil have not changed significantly.

The soil is clayey, brown in color, poorly permeable with a small proportion of carbonates and humus, neutral, so it corresponds to the Mediterranean littoral zone.

The amount of nutrients is low, so the soil belongs to infertile soil.

There are no harmful substances in the soil.

ANALYSIS OF PLANT MATERIAL (NEEDLES)

INDICATOR	2003.	2023.
pH-value	5,5	7,2
Nitrates / nitrites as N mgL ⁻¹	0	0
Sulfates mgL ⁻¹	<200	<200
Iron mgL ⁻¹	0	0
Lead mgL ⁻¹	0	0
Mercury mgL ⁻¹	0	0

INDICATOR	2003.	2023.
Distribution %		
Clay	67.8	72.0
Sand	27.8	26.9
Silt	4.4	1.1
Type of soil	clay	clay
Porosity %	46	45
Contents of carbonats %	< 1	< 1
Contents of humus %	< 1	1-3
pH-value	6.5	7.1
Ammonium as NH ₄ ⁺ mgL ⁻¹	5	1.0
Nitrates / Nitrites as N mgL ⁻¹	11.4	10.9
Phosphates as P mgL ⁻¹	3.25	3.05
Potassium mgL ⁻¹	0	10.0
Chlorides mgL ⁻¹	0	0
Sulfates mgL ⁻¹	>400	<200
Copper mgL ⁻¹	0	0
Iron mgL ⁻¹	0	0
Lead mgL ⁻¹	0	0
Mercury mgL ⁻¹	0	0

In the water extract of pine needles, no amounts of harmful substances that would indicate soil and air pollution have been proven.

Conclusion

The answer to our first research question is that Pineta needs to be renovated "URGENTLY".

The city of Labin is on January 10, 2023. announced that he is moving to renovation of Pineta.

We will follow the renovation in the hope that this project will come to life as announced and that Pineta will once again be the NOBLE CLOAK OF THE OLD TOWN CORE OF LABIN, which would be the answer to our second research question.

Odobren najveći projekt Grada Labina – obnavlja se Pineta!
10. January 2023.



Let's conclude with a quote
"Nations that destroy their country destroy themselves.
Forests are the lungs of our country, they clean the air
and give fresh strength to our people.,,
Franklin Delano Roosevelt