

# Landscape evolution of the Rieti Basin from Manlio Curio Dentato consul to recent time

Scott Mensing  
University of Nevada

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THE FUTURE AND THE ROOTS  
*Some tools for the environmental restoration*  
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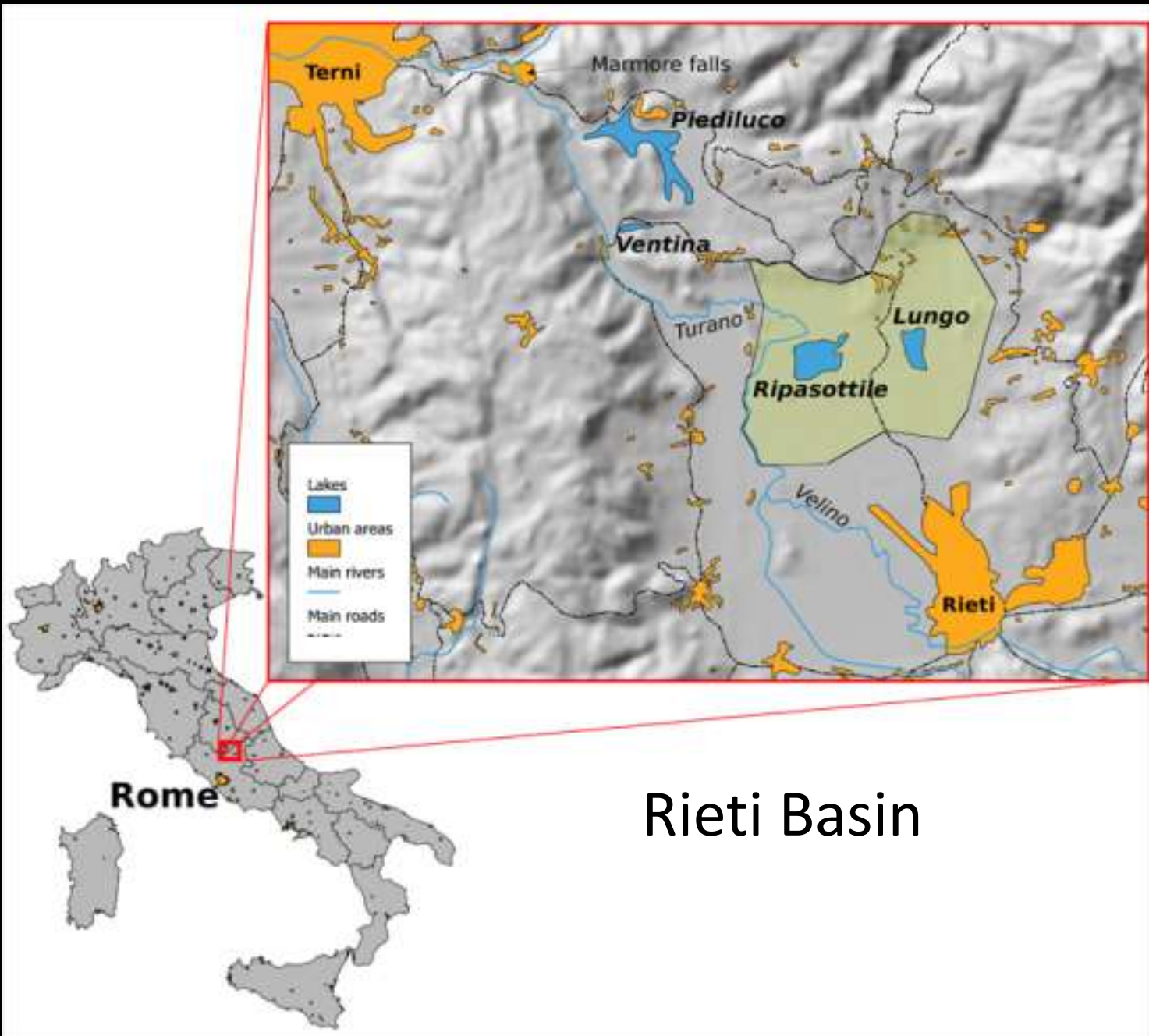


**Physical records of environmental change**

**+**

**Written documents**

**To reconstruct landscape evolution**



Rieti Basin



**Lago di Ripasottile**

**Lago Lungo**

Today the Rieti Basin is completely cultivated –  
but what did it look like in the past?

1649



One way we try to understand landscape evolution is through historical documents

Another is with physical evidence –  
sediment cores from lakes



Photo: Emanuele Zaico

Coring done  
by hand in  
shallow lakes  
(4-5 m depth)  
from an  
anchored  
platform



Photo: Alexandria Suchy-Mabrouk



Cores have distinct layers associated with changes in the environment



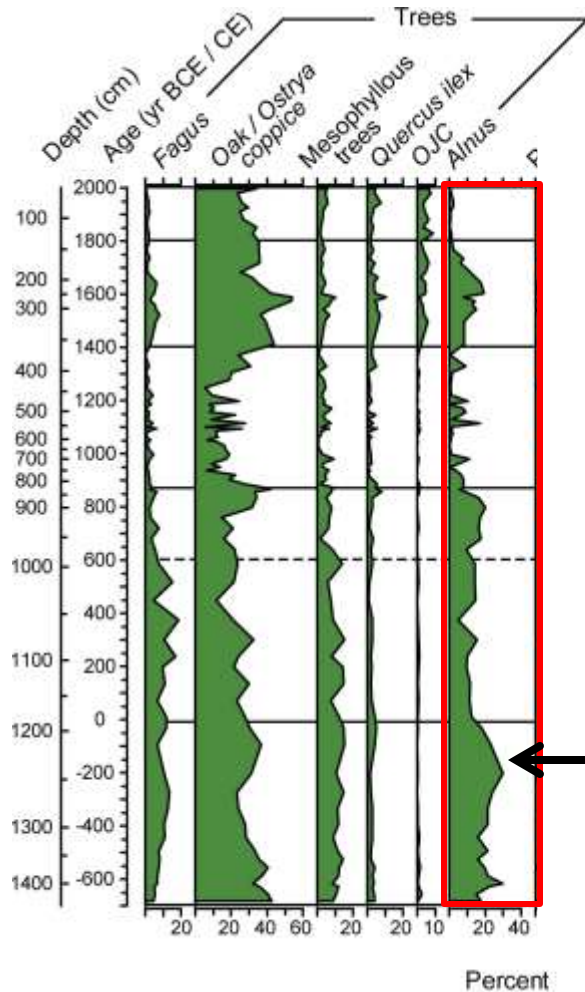
# Fossil pollen used to reconstruct vegetation history



Historical texts suggest that the Romans cut a channel  
(Cava Curiata) in ~270 BCE at Marmore



# Lago Lungo Summary Data



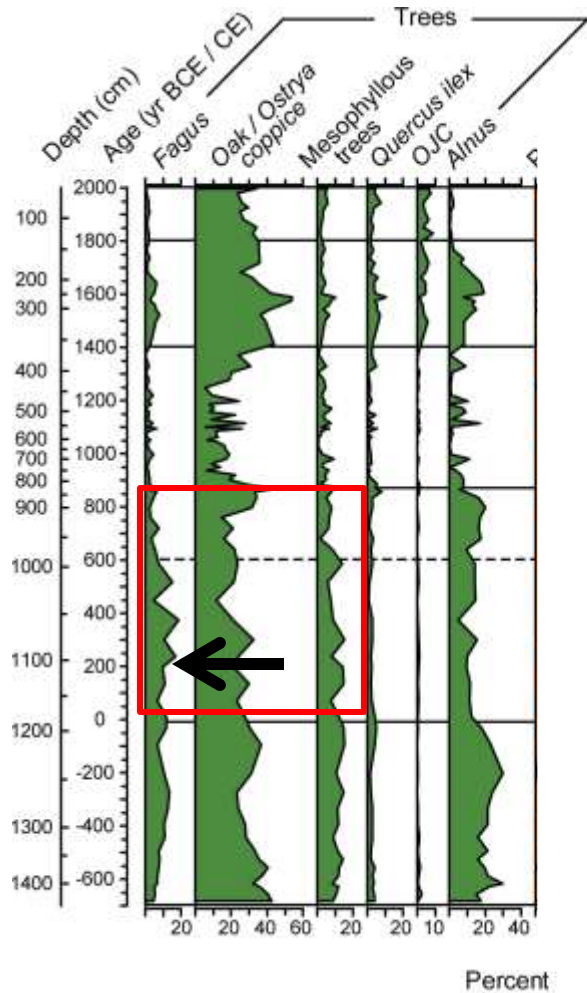
The pollen data appear to confirm the written texts. We see a big decline in Alder pollen ~200 BCE suggesting that the water level in the basin declined – probably caused by the Cava Curiata

Many studies suggest there was extensive deforestation during the Imperial Roman Period



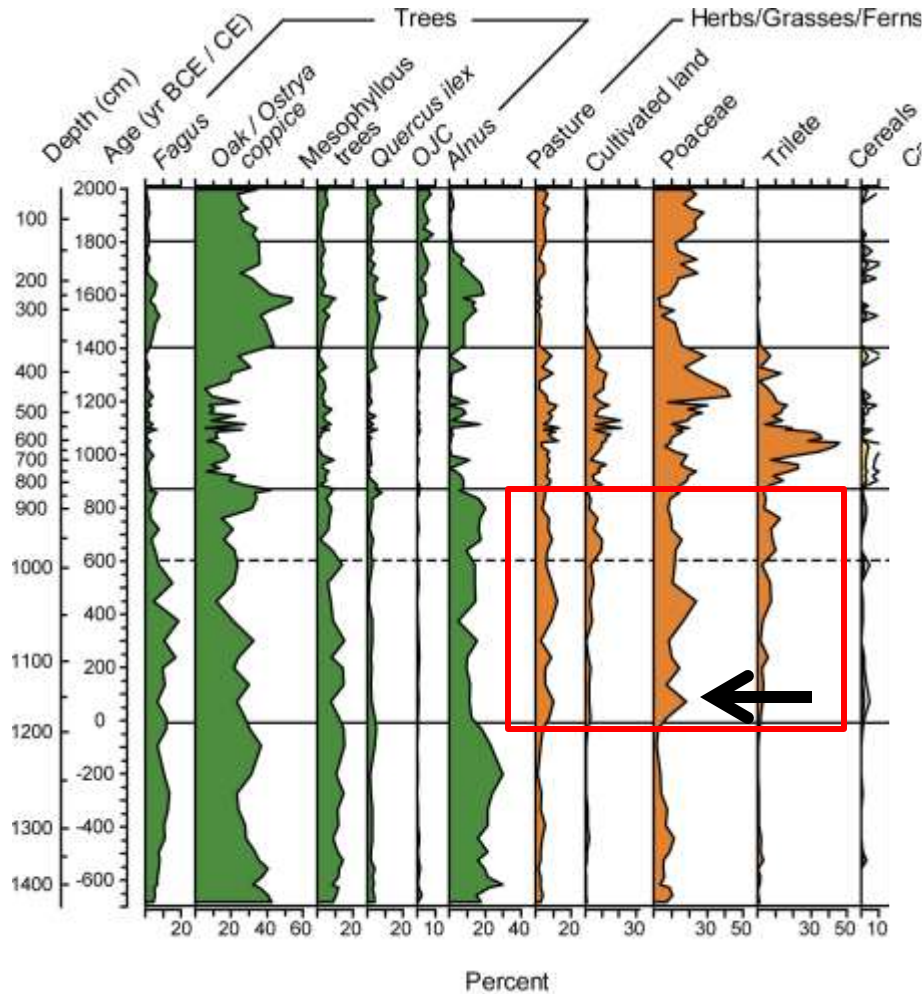
Roman villa near Colli sul Velino

# Lago Lungo Summary Data



Our data show that the Romans did not deforest the Rieti Basin. Beech (fagetta) remained intact.

# Lago Lungo Summary Data



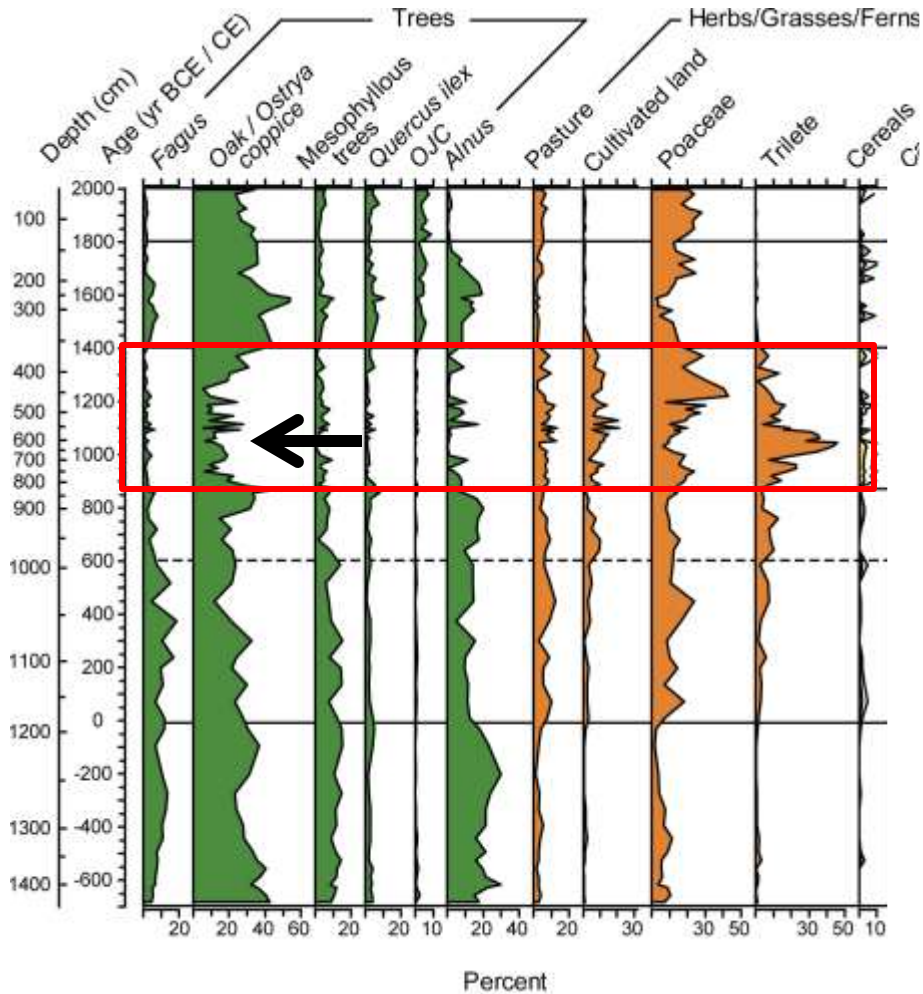
But they did change the landscape by introducing more intensive grazing of livestock creating more open grassland.

Medieval documents, supported by archaeology indicate construction of hill towns and expansion of agriculture to 1000 m between 1000 and 1200 CE



Labro, Rieti Basin

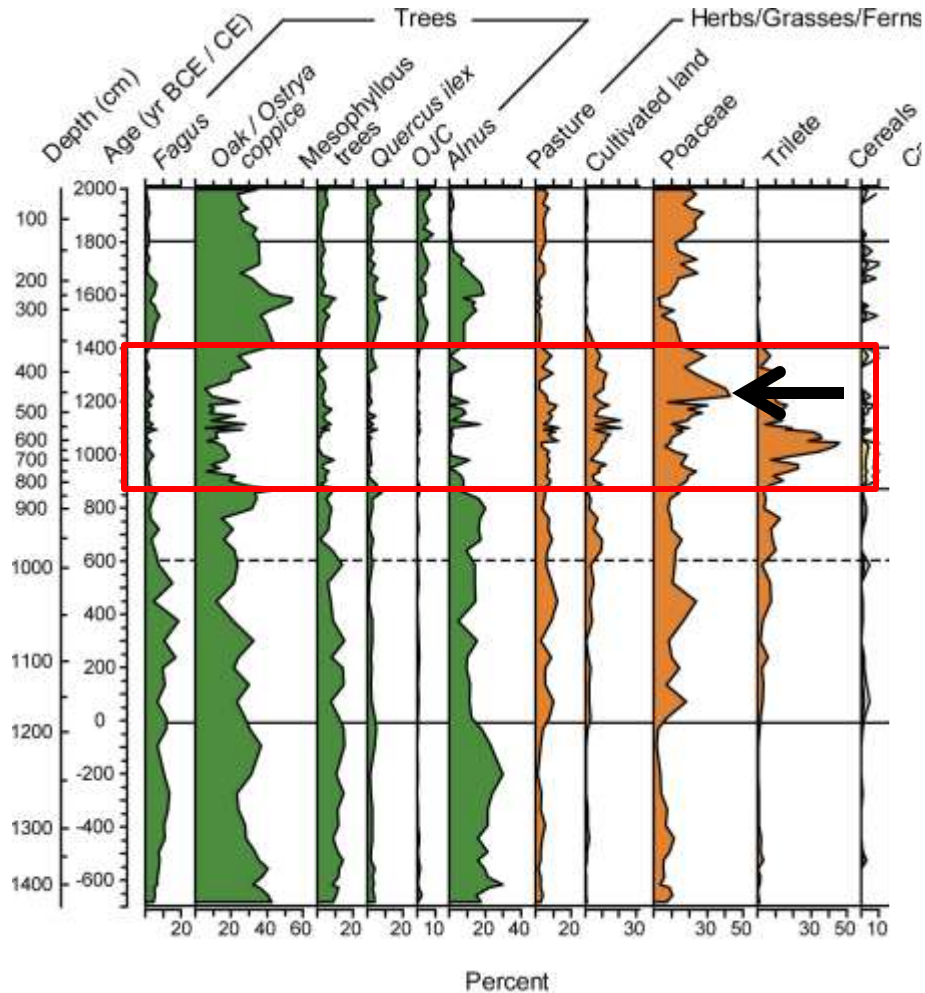
# Lago Lungo Summary Data



Our data support extensive deforestation during the Medieval period and high erosion. Beech forests disappeared and meadows at high elevation may have been created during this period.



# Lago Lungo Summary Data

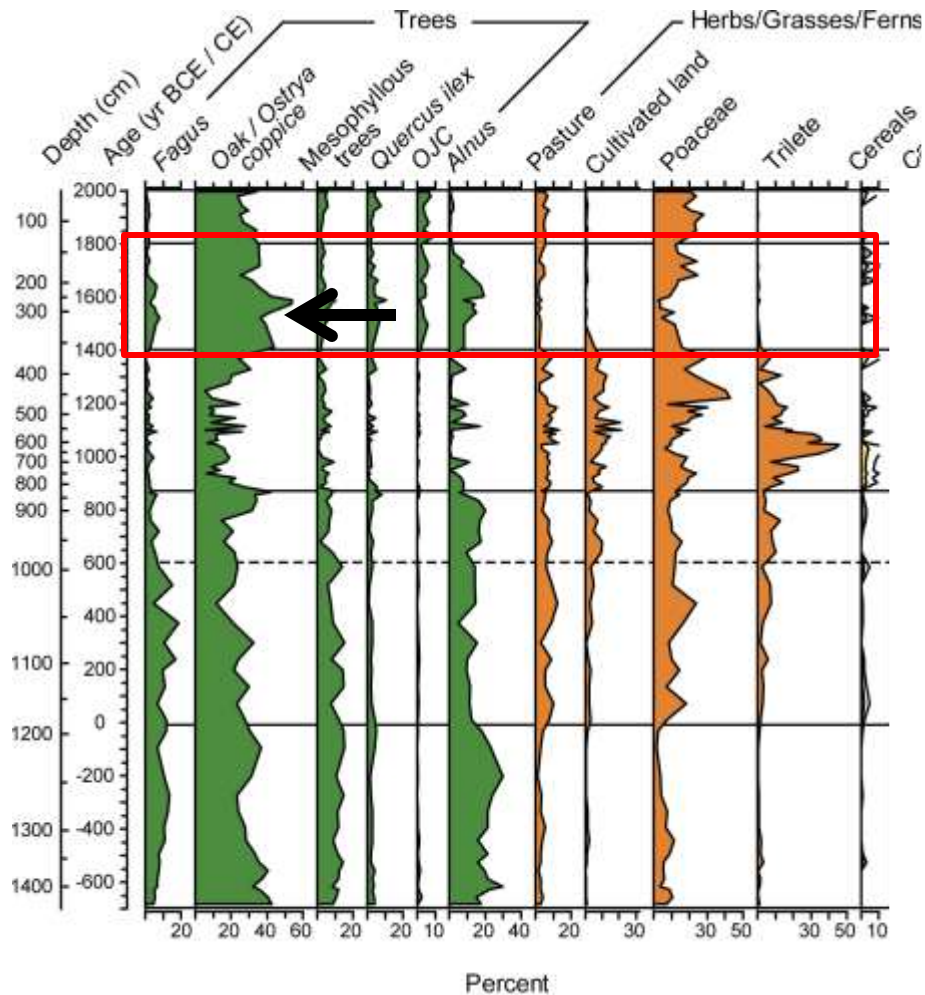


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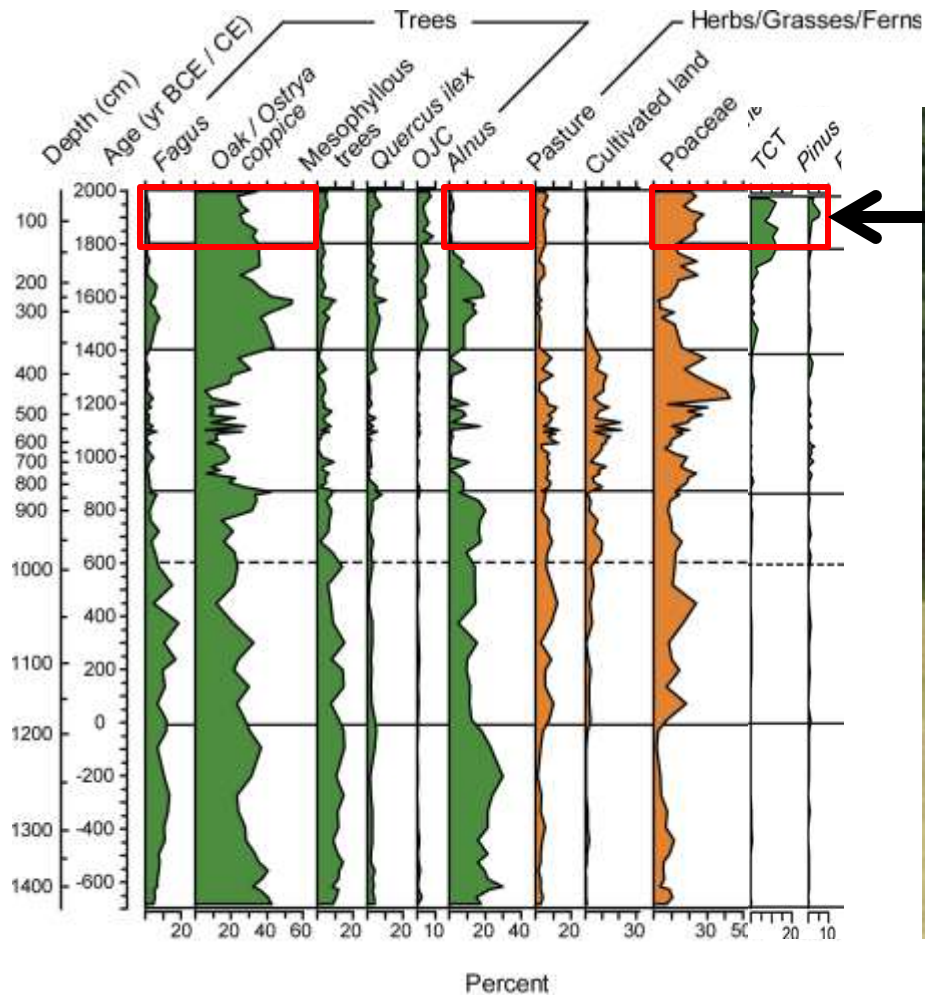
Art and historical documents describe the Little Ice Age climate that followed the Medieval period as cold and wet.

# Lago Lungo Summary Data



With the change in climate, and loss of population (black plague) forests recovered quickly BUT without beech. The forest after the Medieval period is less diverse, mostly oak and ostrya.

# Lago Lungo Summary Data



The landscape of today in Rieti is the result of history and modern forest and cultivation practices. Dry basin floor. Juniper more common, beech less common. Forests of oak and ostrya are typical.

## Landscape Evolution in the Rieti Basin:

- Pre-Roman – Rich diverse ‘closed’ forest
- Roman period – Rich diverse forest but with openings and pasture
- Medieval period – Loss of forest cover, large increase in grassland and pasture
- Little Ice Age – Return of forest, but lower in diversity, wet basin
- Modern period – Less diverse forest of oak and ostrya, dry drained basin



**Thank you for your attention**



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