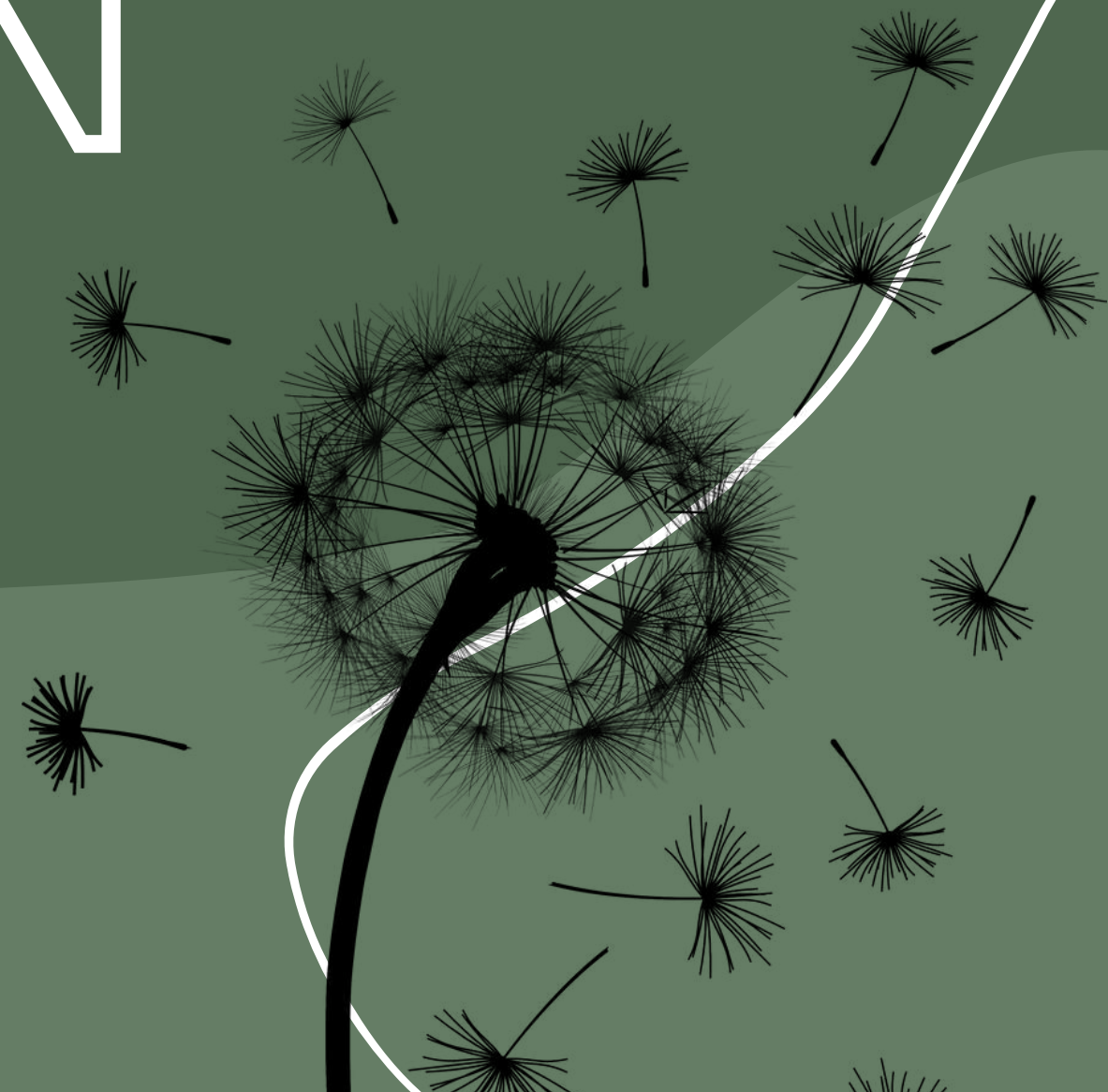




# LIFEPLAN

A Planetary Inventory of Life





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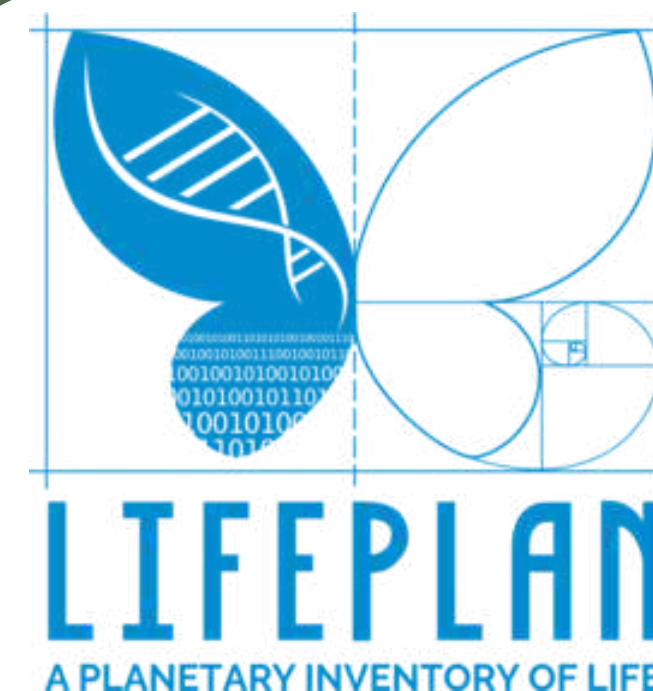
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# Global biodiversity

- Accounting for biodiversity patterns is the basis for sustainable management of natural resources in the face of ongoing global change
- A 80% of all species on Earth still await discovery.
- We are losing biodiversity at an alarming rate.





# Why we understand biodiversity so poorly?

- We lack the relevant data, since for the majority of species we have no data (or very sporadic data).
- The processes underlying biodiversity dynamics are complex, and we lack the tools for understanding the data.



# What is Lifeplan about?

- Collect big biodiversity data across globe
- Standardized global data collection
- Automated species recognition
- Analyze global data


# Global sampling



Each global location consists of two sampling stations:

natural  urban 

20-50 km

 Portugal - Urban; Natural

- Six years: 2020 - 2025

# Natural - Companhia das Lezírias



# Urban - Monsanto





## Malaise trap

Insects



## Cyclone sampler

Airborne spores  
of fungi (and  
possibly pollen  
and bacteria)

## Audiomoth



Birds and  
other vocal  
organisms

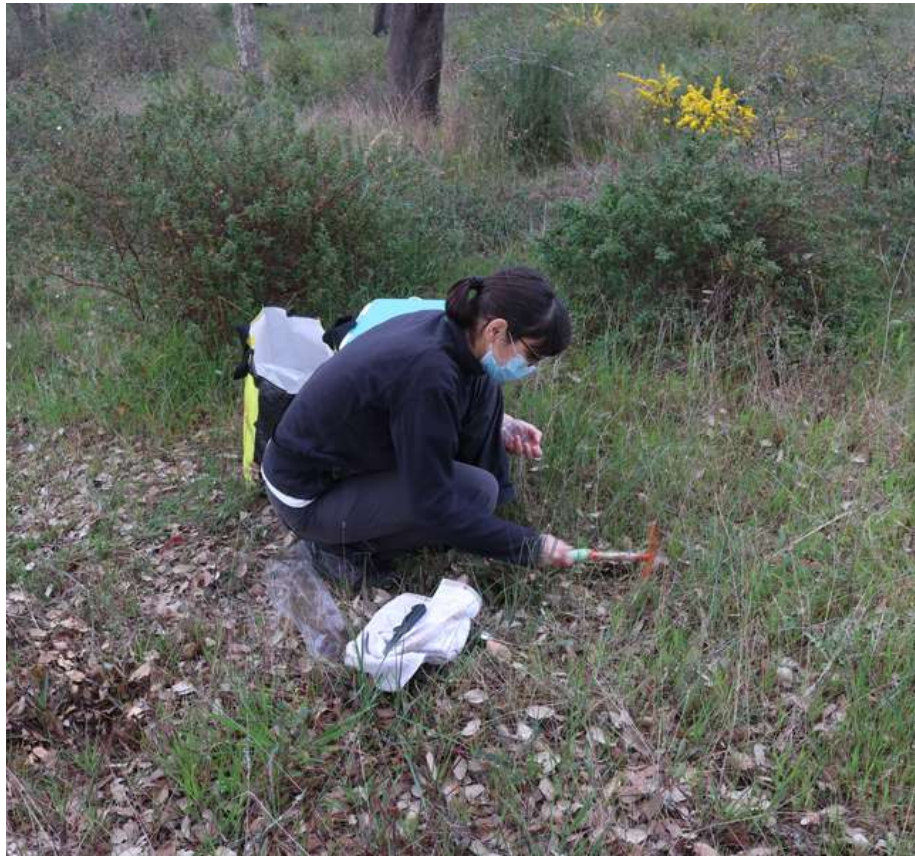
## Camera trap



Mammals

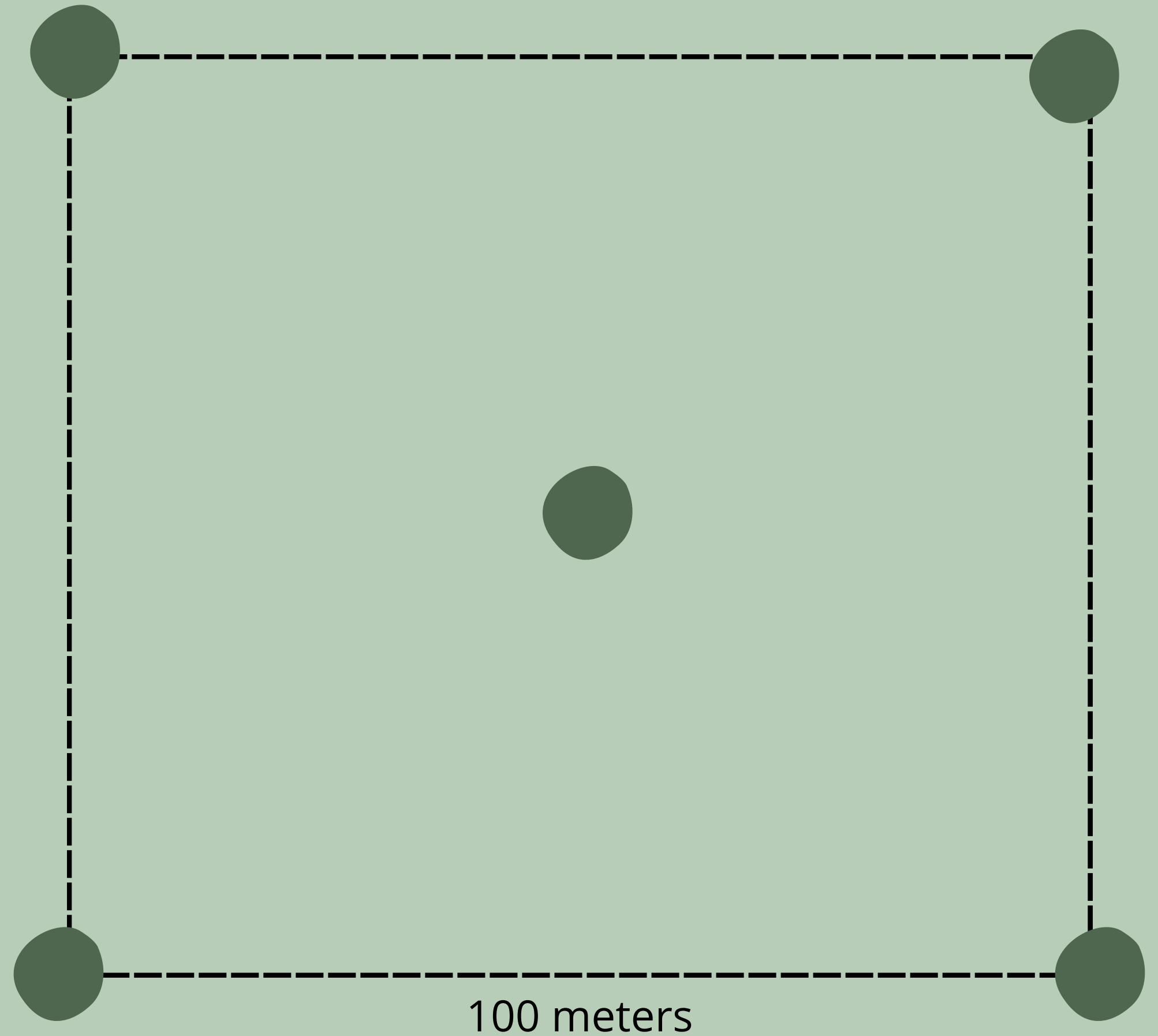
**Weekly  
sampling**

100 meters



Fungi (and possibly other micro-organisms) are sampled from soil-samples

**Eight times a year during growing season**



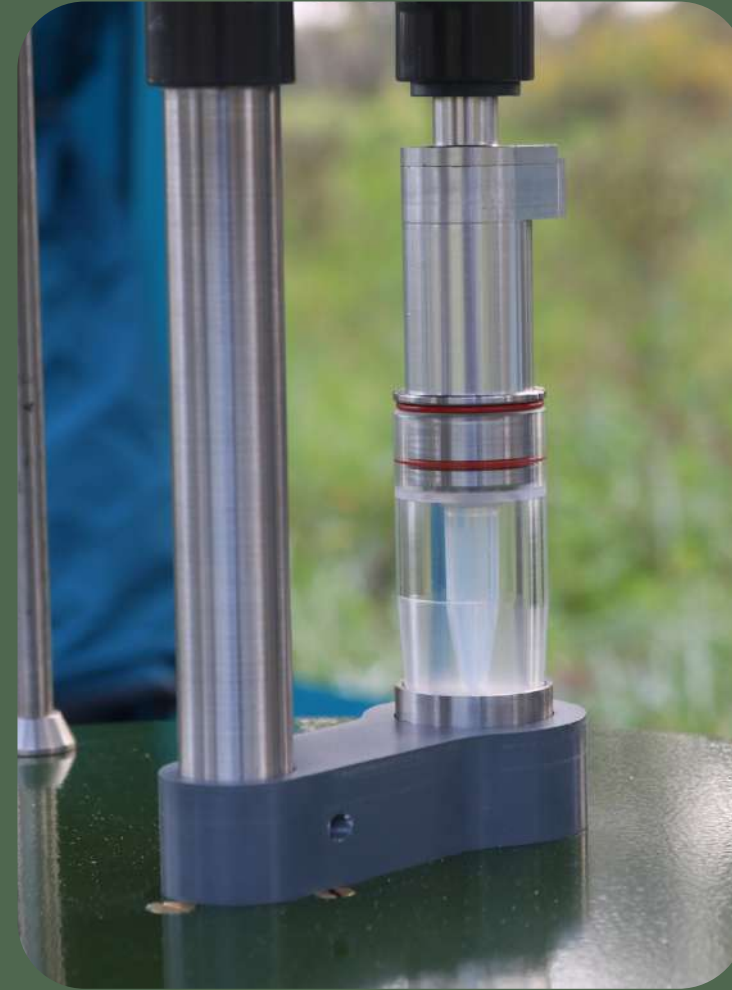
# Weekly sampling



Audiomoth



Camera

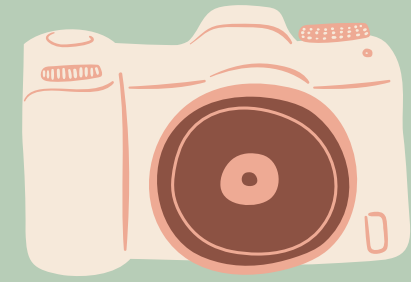


Cyclone sampler



Malaise

# Data pipeline



## Data collection

Change cards and bateries

## Data upload to nextcloud

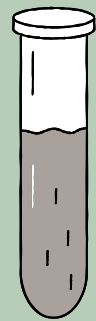
Upload the files to a cloud

## Species identification

automated software for bird sound identification  
Automated software for image species identification

## Data analysis

Resulting massive data are then converted to observations of what species occur where and when.



## Data collection

Take the cyclone sample  
Take the malaise botle  
Collect soil samples

## Send samples

Store the samples in a freezer and then send to be analysed

## Analyse samples

eDNA - insects; spores

## Data analysis

Resulting massive data are then converted to observations of what species occur where and when.



# Number of files

	MONSANTO 2022	COMPANHIA DAS LEZÍRIAS 2021	<b>TOTAL</b>
Audio	110 901	108 213	219 114
Photos	26 242	166 153	192 395

# 114 teams sent data

from all over the world

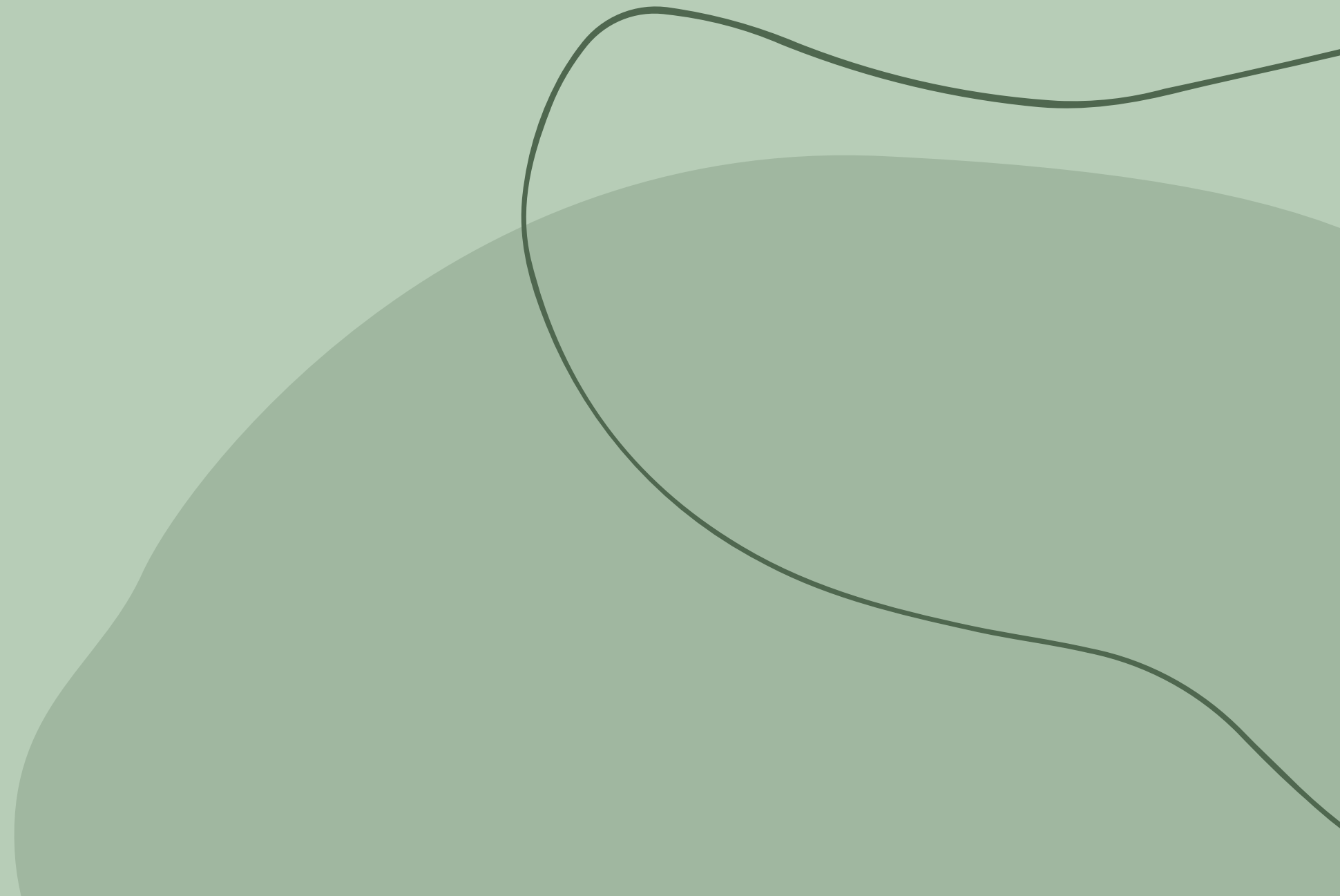
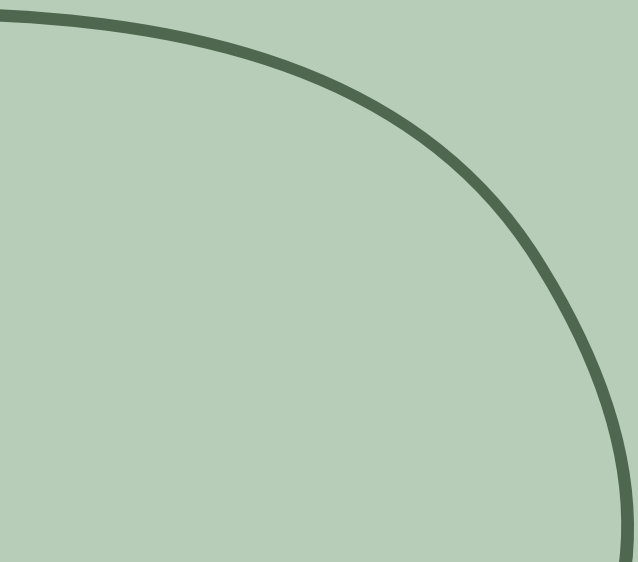
# 4 million images

from camera traps

# 95 TB Audio

equivalent to about 14 millions minutes of recording

# Monsanto - Urban





LP0219



071°F 21°C



08/05/2022

07:58:52



LP0218



057°F 13°C



03/02/2022

19:51:42



LP0219



053°F 11°C

04/04/2022

08:58:50



LP0217



059°F 15°C



07/05/2022

06:01:09





LP0217



067°F 19°C



07/02/2022

15:34:06



LP0217



065°F 18°C

09/02/2022

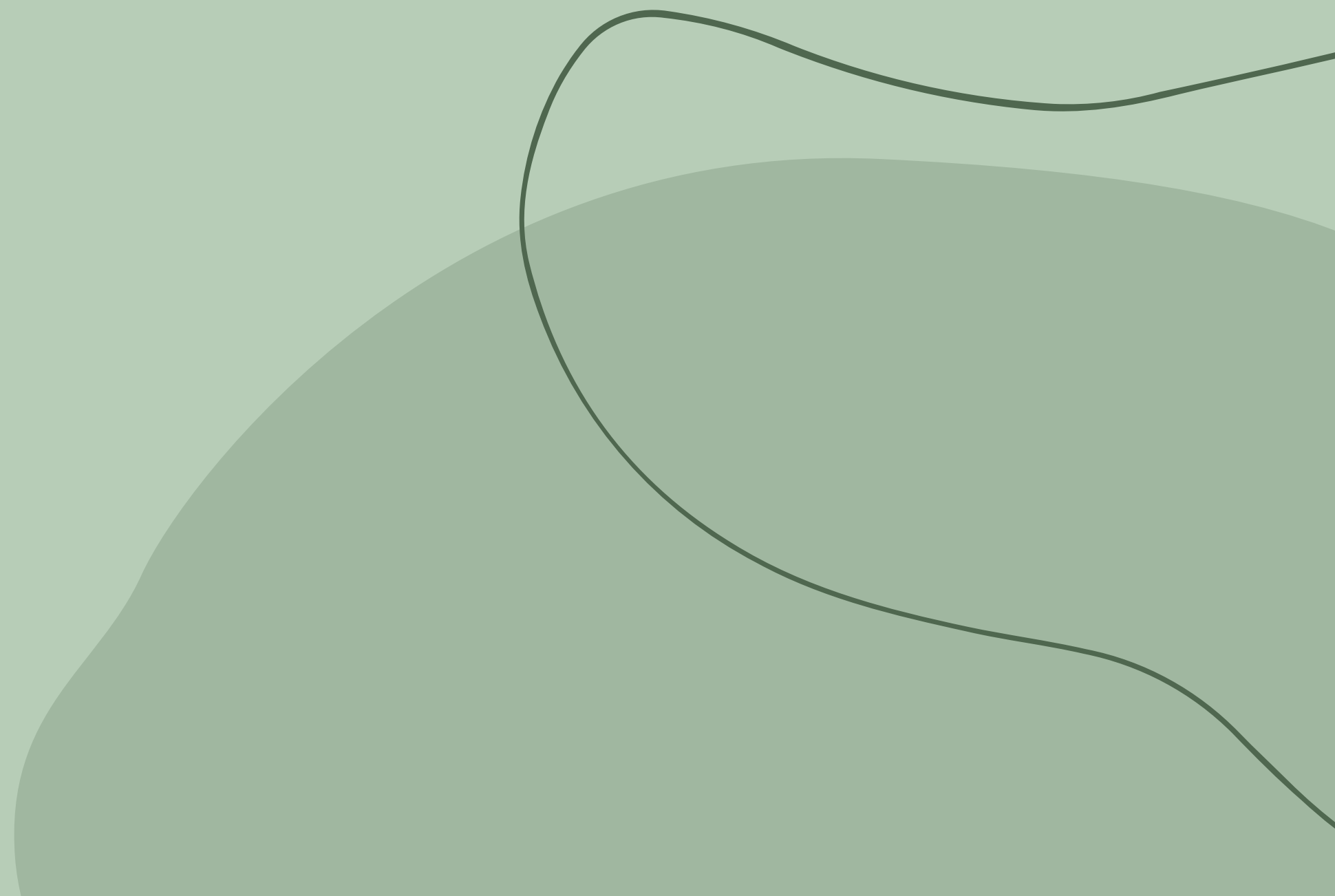
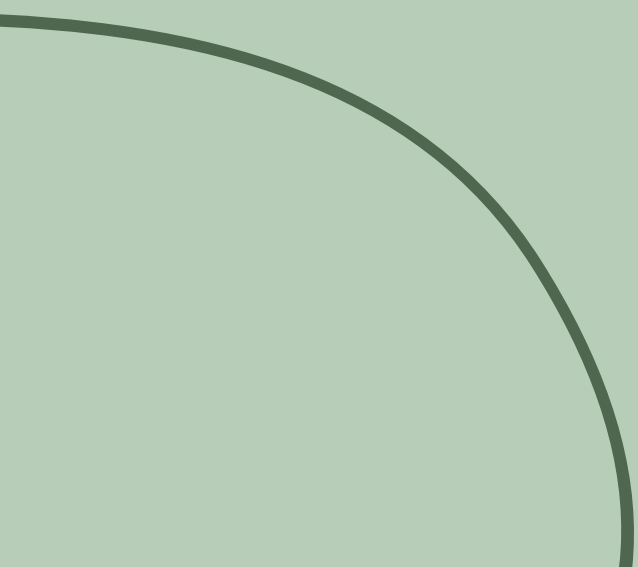
17:27:06







# Companhia das Lezírias - Natural





LP0220



042°F 05°C



26/03/2021

04:47:58







LP0216



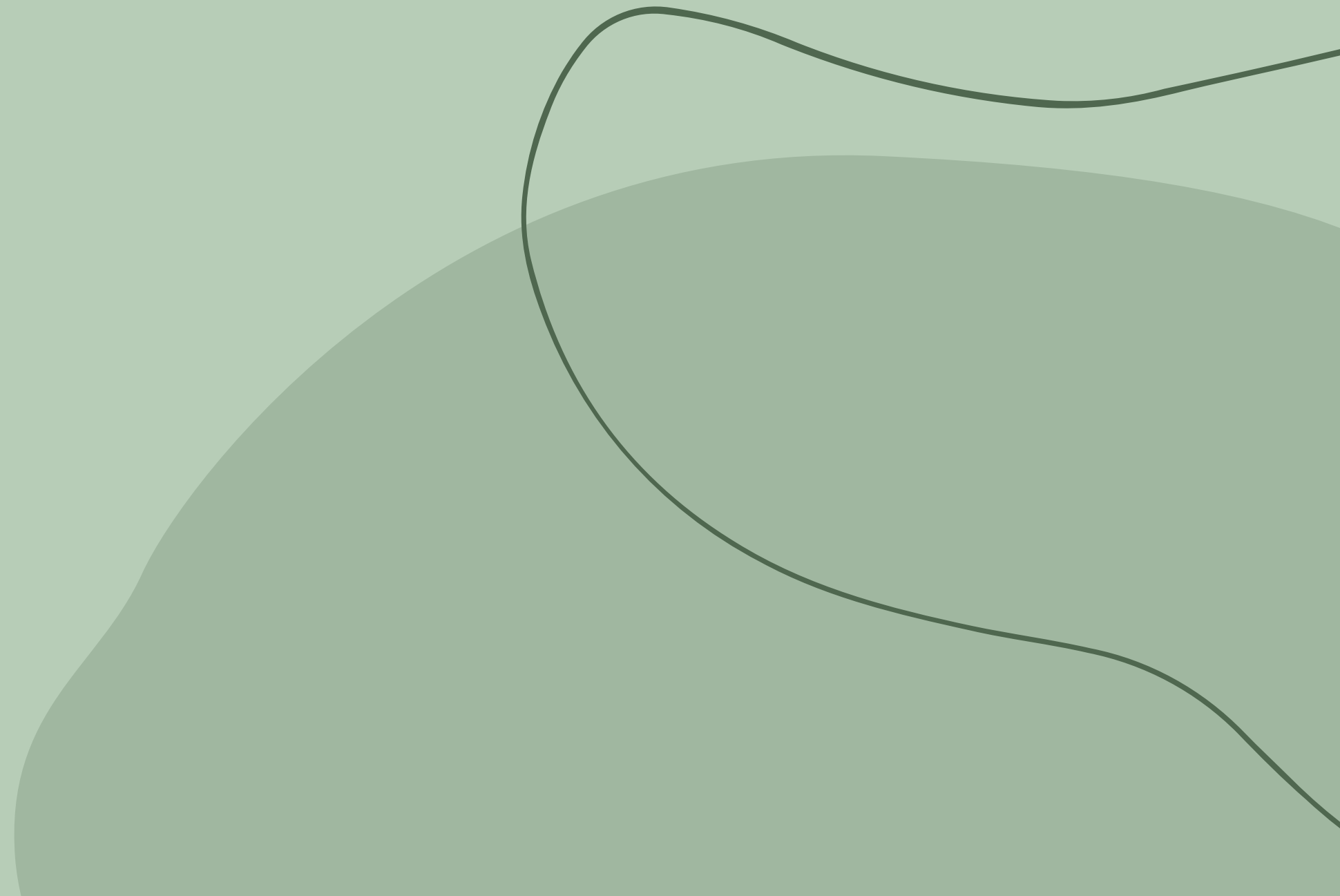
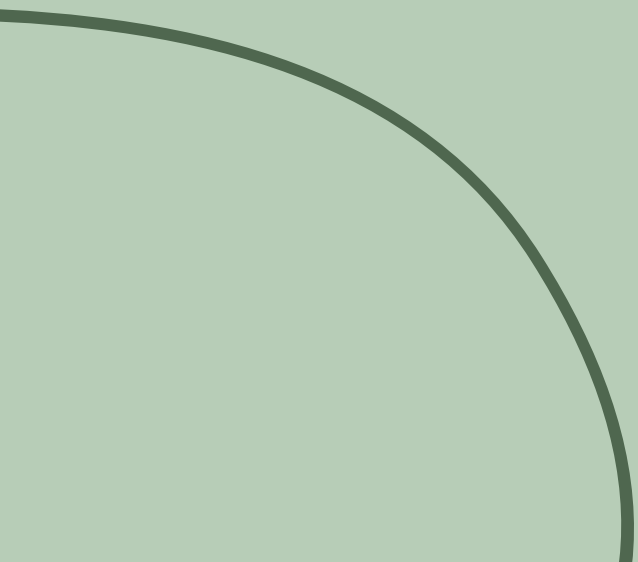
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18/06/2021

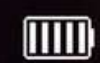
04:42:10

# World





LP0014



031°F -00°C ● 17/08/2021 04:14:59



LP0869

013F -10C ● 21/12/2021 10:29:18



LP0960

011 F -11C ©03/12/2021 11:08:54



LP0008

069 F 20C 27/12/2021 14:11:46

# Thanks!

Parque Florestal  
de Monsanto



**LISBOA**

CÂMARA MUNICIPAL