



**YTÜ** YILDIZ TEKNİK  
UNİVERSİTESİ

# Biodiversity

## Preliminary Actions Report

Current Status on Campuses  
& Further Actions

[kampus.yildiz.edu.tr](http://kampus.yildiz.edu.tr)







# Reporters



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# Impacting on the Future through Sustainable Action Plans



# CONTENTS

## YILDIZ TECHNICAL UNIVERSITY BIODIVERSITY ACTION REPORT

Background	06
Immediate Actions	08
Current Situation-Green Areas	09
Notable Sites for Biodiversity	08
Inhibiting and Migrating Species	12
Biodiversity Reserve Areas	16
Biodiversity on Campus	18
Sustainable Maintenance	20
Protecting Species	22
Biodiversity Index	25
Protecting the Soil	40
Key Action Areas	42

This report is intended to give a current status of the biodiversity elements of the university's campuses and based on this to list the preliminary actions towards the protection of biodiversity thus preventing the loss of biodiversity. Being aware of the imminent threat of the loss of biodiversity globally and the special concern of protecting biodiversity on campuses are central to the sustainable campus work and smart green campus approach. Therefore, this preliminary report is intended to be a base for a comprehensive biodiversity action report.

# Yildiz Technical University

The Background to the Biodiversity Action Report



The 2022-2050 Climate Change Action Plan makes specific references to conserving natural life, soil, water, air, flora and fauna along with biodiversity areas. This preliminary actions report aims to provide a layout of the campuses to the university's shareholders.

Biodiversity is at the heart of the multidimensional, broad, and sophisticated sustainable development policies of the university which have been put into practice recently. Those policies and the challenges brought about by the imminent environmental threats, such as pollution, global warming, and climate change, etc. require that the issues and elements involved in the biodiversity areas on campuses be handled delicately.

Therefore, this preliminary actions report will set the grounds for the university on how to proceed with an urgent

biodiversity action plan.

For this so-called action plan to be prepared effectively and comprehensively, this report includes an extensive framework on which an understanding of biodiversity on campuses can be built. Then, with the data provided here, the commissions set up into sustainable development can determine the steps and define the nature of work required for conserving and creating biodiversity areas throughout campuses.

As well as facilitating a biodiversity action plan, this report will be a benchmark to measure how well the university is doing regarding biodiversity in achieving the sustainable development goals.

Prof. Dr. Tamer YILMAZ, **The Rector**





Biodiversity is a  
vital component  
in achieving  
**Sustainable**  
**Development**  
**Goals**

## Suggested Immediate Actions

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Recently added green and blue areas to the campus area

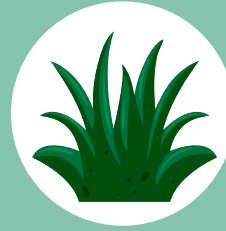
One of the quickest actions towards boosting **biodiversity** is adding more green and blue areas throughout campuses.



## Current Situation - Green Areas



**Forest Area**  
**23%**  
 180.000 m<sup>2</sup>



**Grass Area**  
**33%**  
 255.000 m<sup>2</sup>



**Planted Area**  
**25%**  
 190.000 m<sup>2</sup>

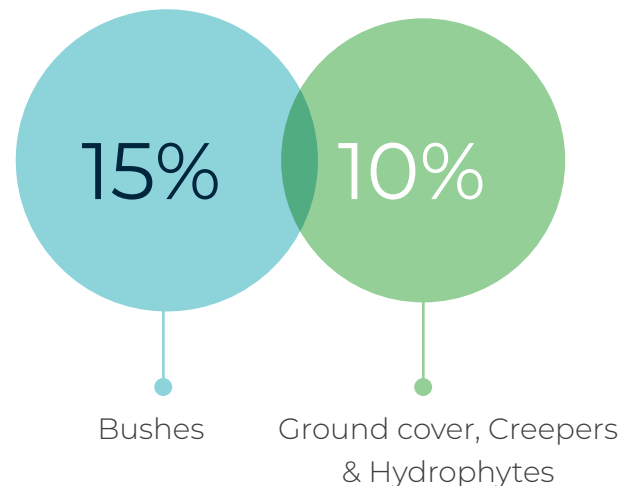
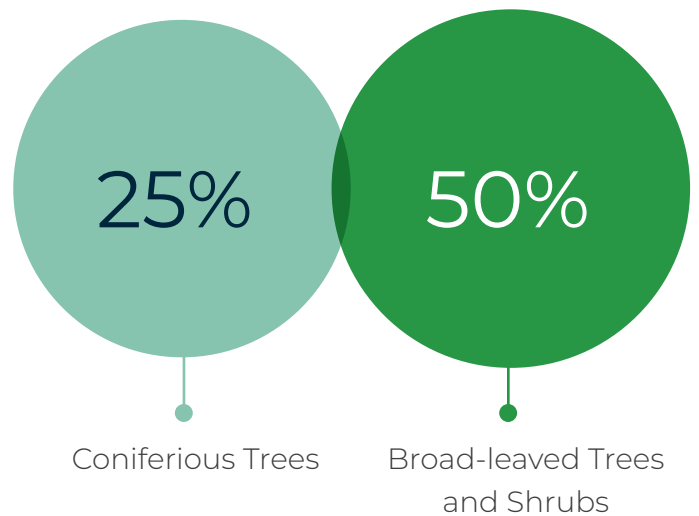


**Natural Reserve**  
**19%**  
 145.000 m<sup>2</sup>

In order to provide a baseline for a biodiversity action plan, the starting point is to assess the current situation of the campuses. The green areas on the Davutpasa Campus amount to 770.000 square meters. Among the total green areas, even though the grass areas are higher in amount, increasing the amount of the planted areas seem to be an effective way to get a head start towards the conservation of biodiversity on campus.

Yildiz Technical University has already been prioritizing the creation of green areas through increasing the amount of planted areas. By doing so, the university aims to contribute to the conservation of the species on campus immediately and effectively. Furthermore, plants are chosen so as to require little or no external maintenance.

The following figure gives a distribution of the planted green area on the Davutpasa Campus, which is calculated as 190.000 m<sup>2</sup>.

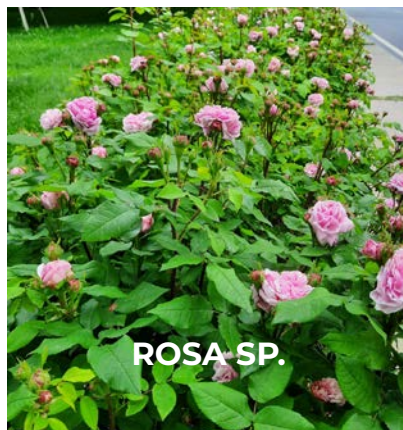
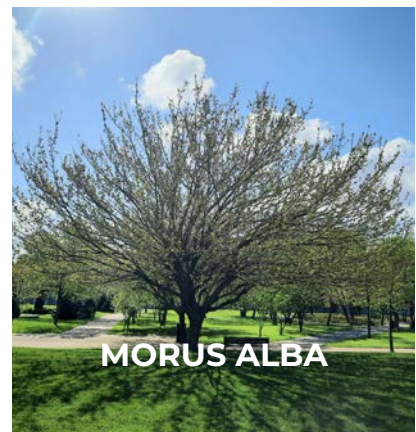
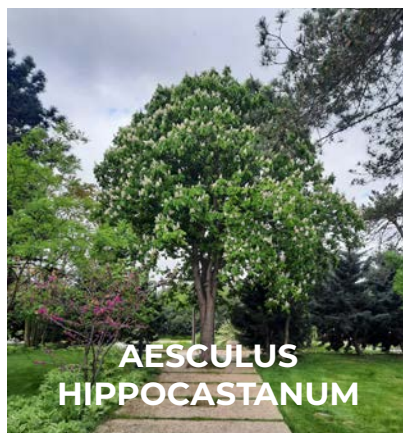


The Ratio of the Planted Green Area

# Notable Sites for Biodiversity

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One thing to note here is that the work and effort devoted into the conservation and creation of biodiversity areas concentrate on green areas. most notably plants. Data regarding other species, such as invertebrates, fungi, and various wild animals are relatively harder to reach, who are known to inhabit our campuses; because they require special monitoring and equipment.

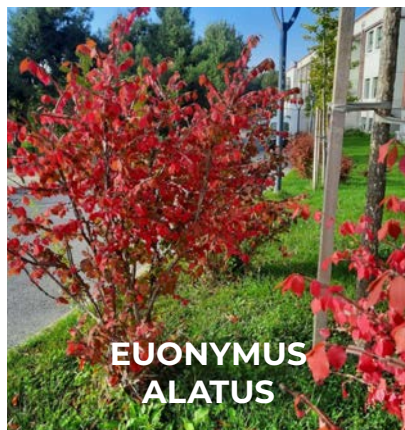
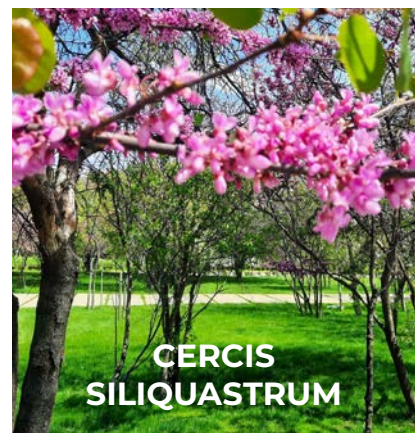
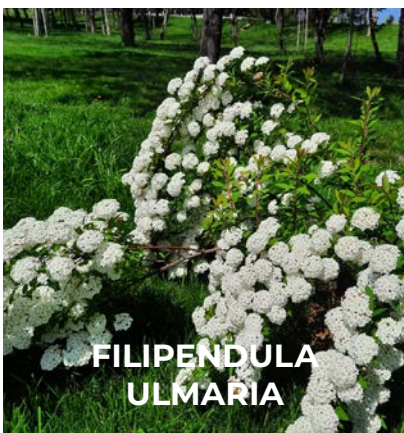




# Notable Sites for Biodiversity

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The species illustrated here with actual sightings on the university's campuses receive special care by the trained staff and experts. Although the university is home to many different species of flora and fauna, this preliminary action report focuses on the notable sites frequently visited by the staff and students. The biodiversity action plan to be based on this report will extensively include all biodiversity elements on the campuses.





# Inhabiting and Migrating Species

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## Notable species recorded on the campuses in the recent years



**Little Owl**  
Athene Noctua

This nocturnal animal has lived among the shadows of the Davutpasa Campus.

On the other hand, for the past several years, there are many daytime sightings by the campus residents.

They prey on rodents, such as mice, rats; lizards, and snakes, etc. and they are still part of the wildlife.



**Indian Ringneck**  
Psittacula krameri

The university has taken steps to help Indian Ringnecks find nests and shelters on trees throughout the campus.

Indian Ringnecks are also part of our campuses' natural beauty. Conservation areas and bird nests have been erected in the central campus area, where the population is centered.



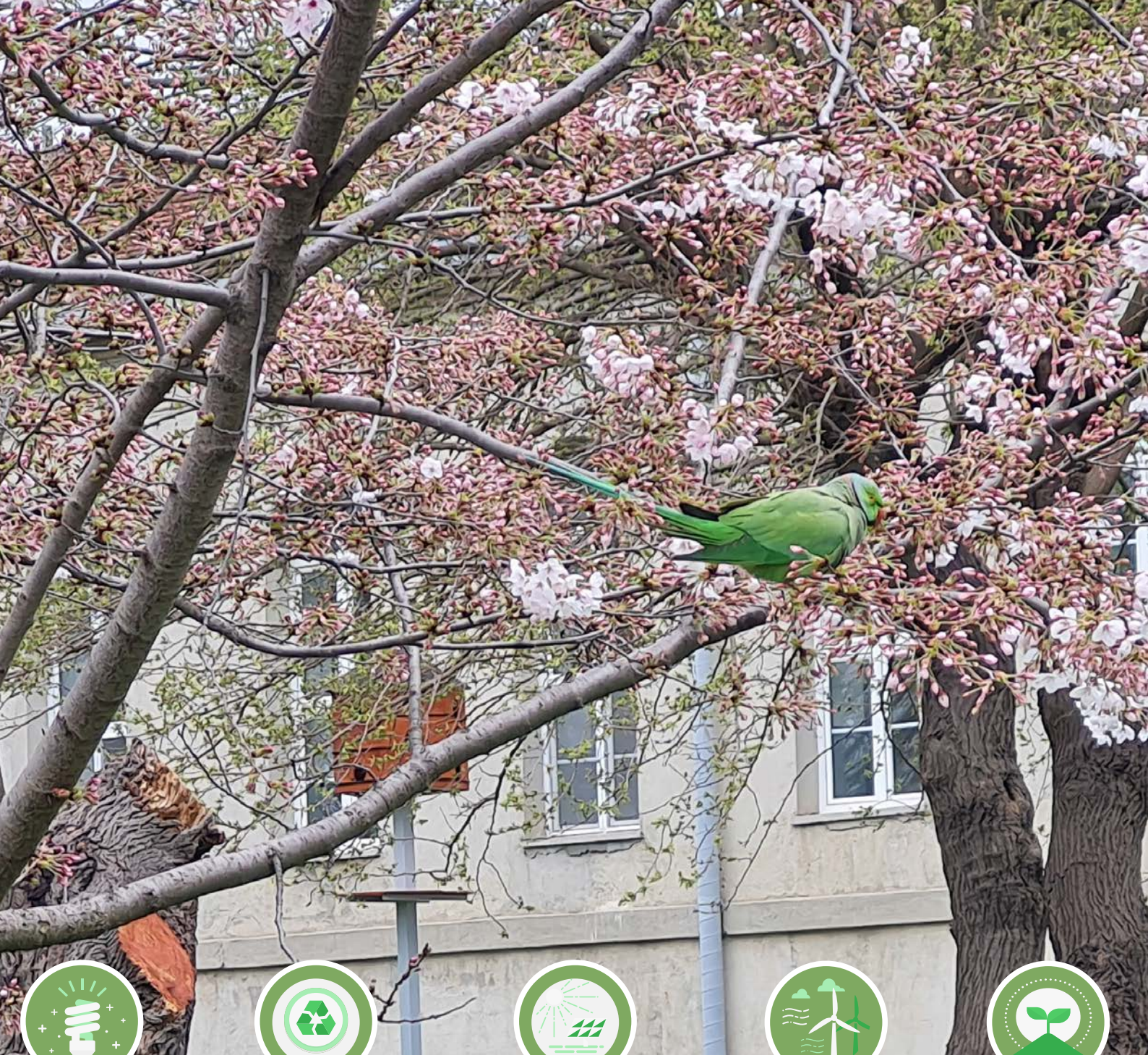
**The White Wagtail**  
Motacilla alba

The university is a temporary home for the white wagtails during the spring semester.

They prefer urban spaces of the campus as those places are relatively suitable for them to feed.

These little movers are always energetic and has become an indispensable part of the campus.







# Inhabiting and Migrating Species

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## Notable species recorded on the campuses in the recent years



**The Red-eared Slider**  
Trachemys Scripta  
Elegans

This amphibian turtle has lived on Yildiz Campus inhabiting the artificial ponds for decades.

They are an indispensable part of the campus biodiversity and ecosystem.

This turtle is treated like a domestic animal by the campus residents.



**The European Robin**  
Erithacus Rubecula

The European Robin spends early spring in both Davutpasa and Yildiz Campuses.

These little birds are often spotted thanks to both their loud singing and the bright orange necklace by the campus residents.

This bird brings joy to the campuses every year.



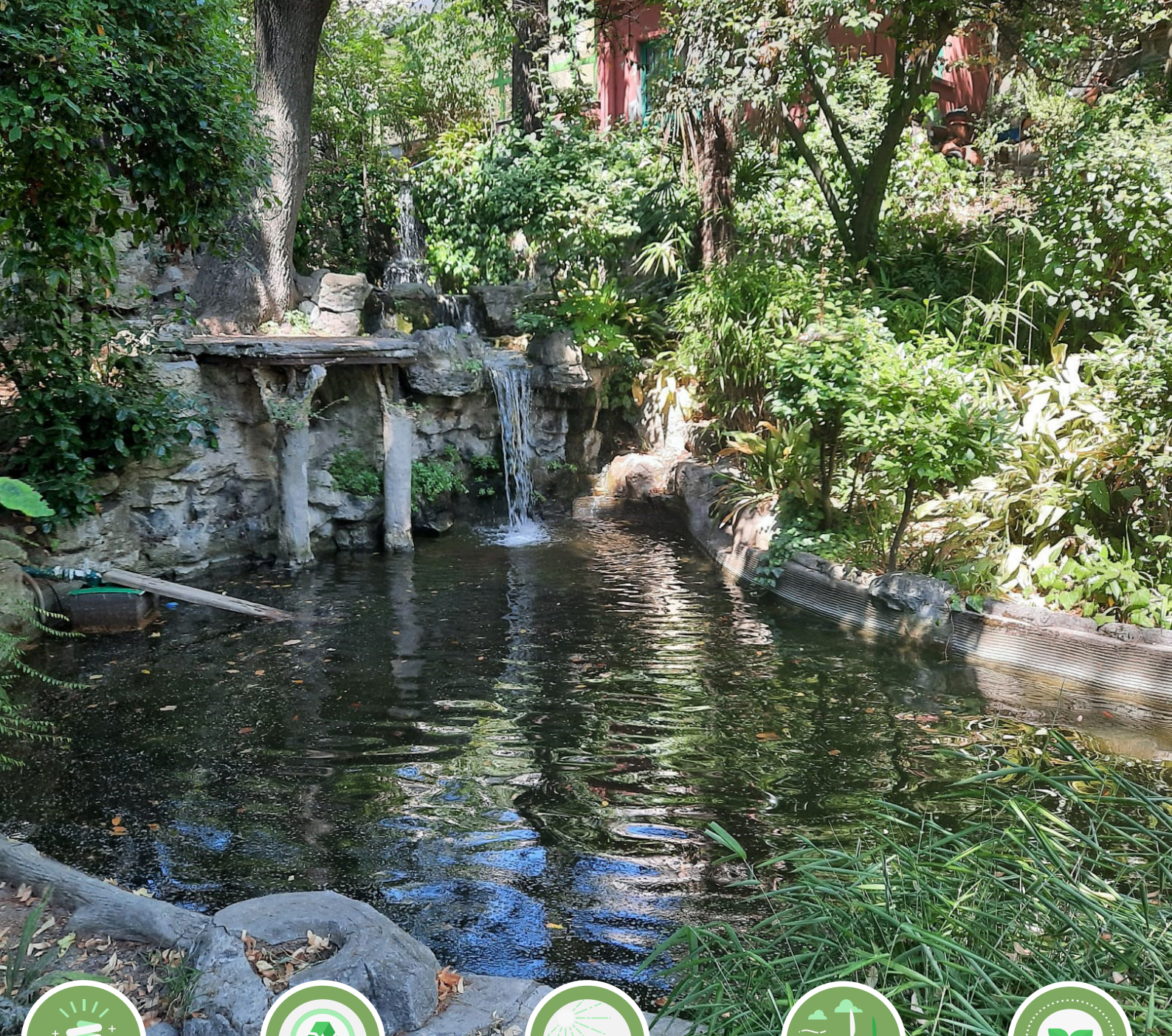
**The Eurasian Chaffinch**  
Fringilla Coelebs

The long singing and energetic nature are among the most notable features of the Eurasian Chaffinch.

Although they are harder to see due to their colours, one can hardly miss and overhear their singing throughout the campuses.

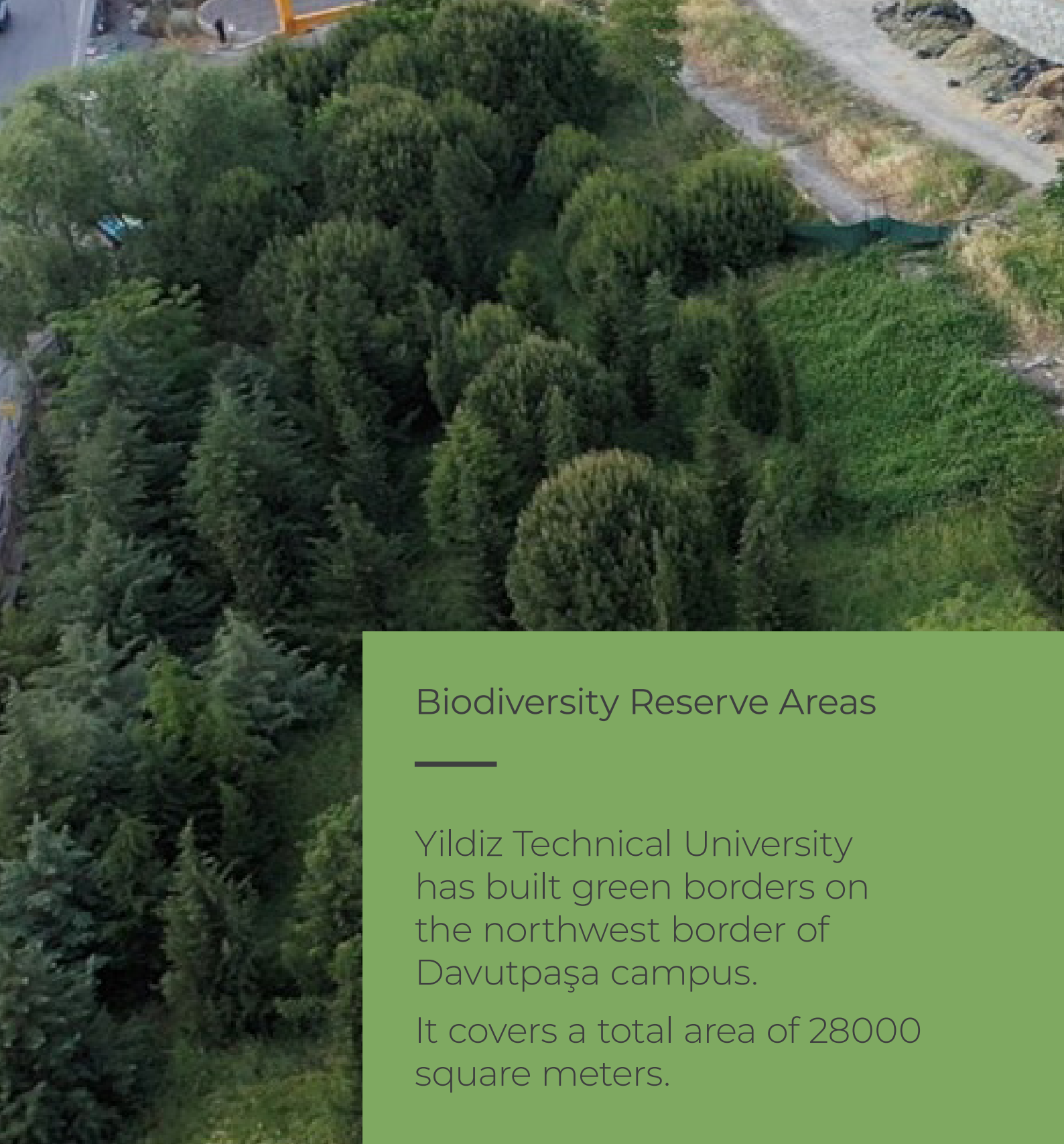
The Eurasian Chaffinch is usually a visitor of the campuses in spring.





**The university campuses worldwide are usually subject to pollution from urban elements. However, Yildiz Technical University prioritize the conservation of the biodiversity reserves so as to achieve sustainable development by all means.**





## Biodiversity Reserve Areas

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Yildiz Technical University has built green borders on the northwest border of Davutpaşa campus.

It covers a total area of 28000 square meters.





**CREATE RESERVE  
AREAS FOR SPECIES**



**ISOLATE CAMPUS  
FROM CITY POLLUTION**



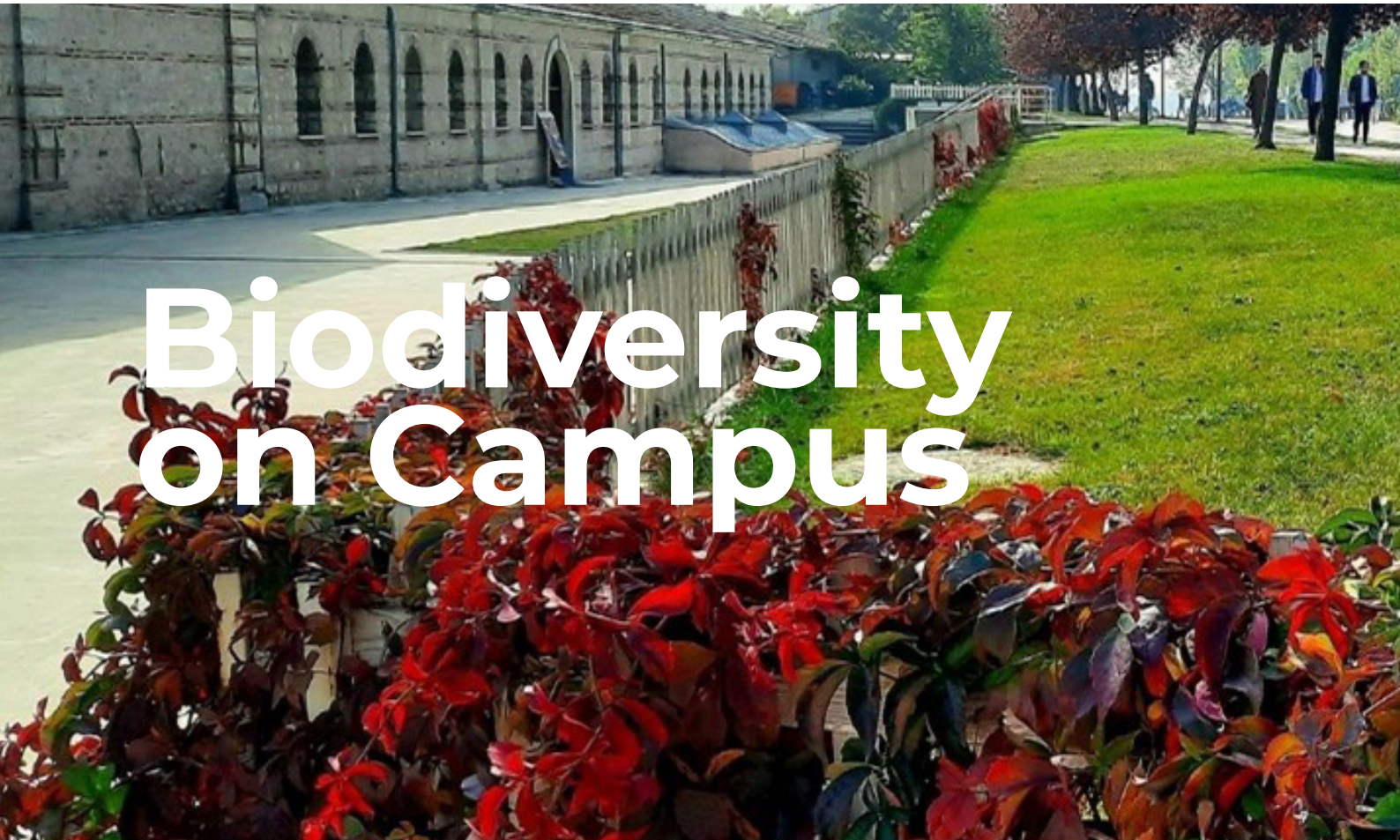
**PROTECT THE SOIL  
AND BIODIVERSITY**

This area has been planned for announcement as a natural bioreserve area within the scope of a biodiversity action plan as it is home to many reptiles including tortoises, and mammals such as moles and hedgehogs.

The university has also covered some portion of its borders, which act as a fence around the campus, with tree lines of evergreen species. This biodiversity reserve areas isolates the university campus from the heavily populated urban area around it. The biodiversity action plan will include steps to cover all the borders with tree lines.

# Maintaining and Extending Current Ecosystems' Biodiversity

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## Biodiversity on Campus

### **Historically-promoted species**

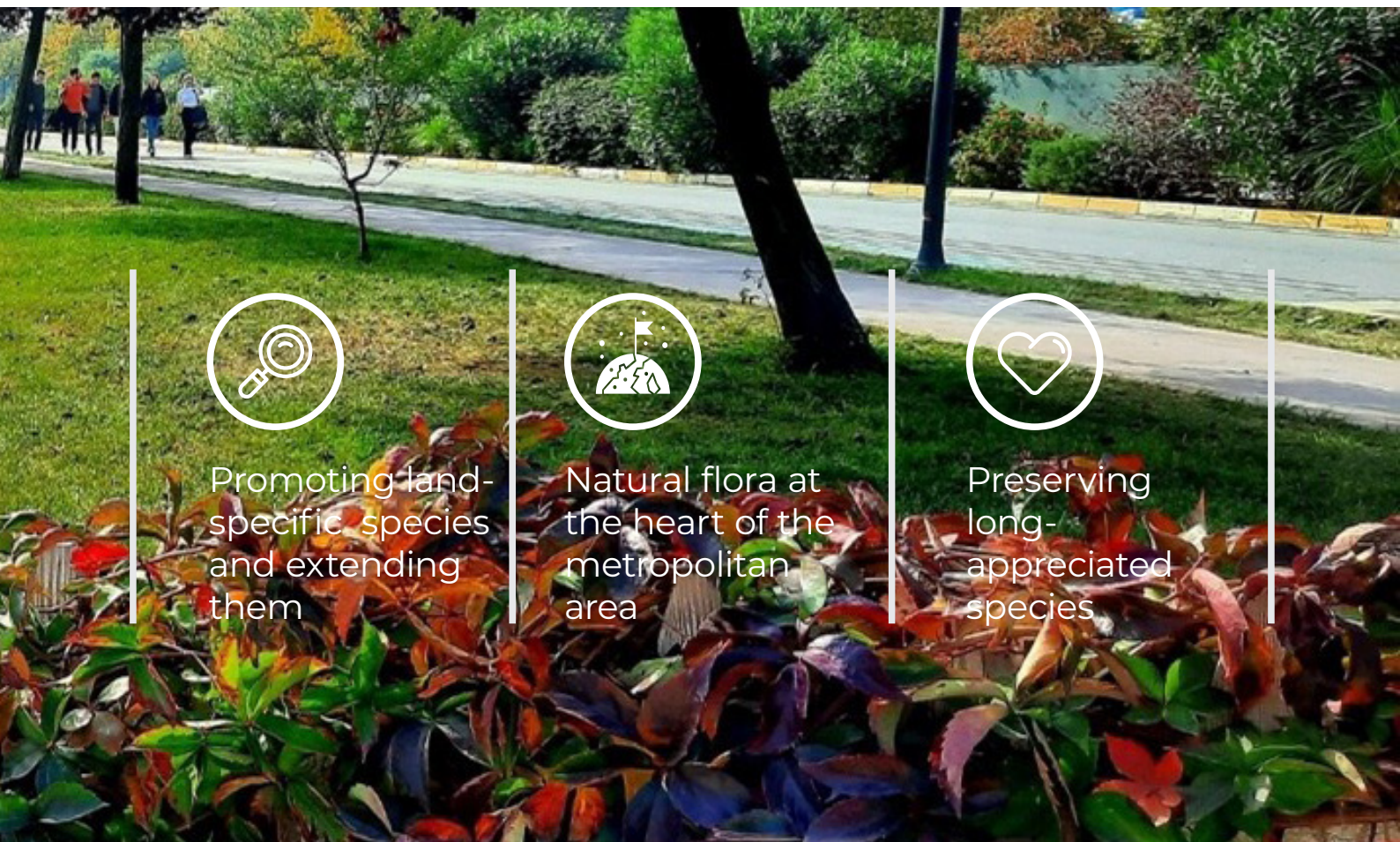
The widespread use of species in line with the natural flora of Istanbul and historically promoted plant species in landscaping is promoted.

Yildiz Technical University's policy is to provide different stakeholders of the university with examples of the natural habitat of the city. Also, we promote and prioritize the use of historically grown species such as judas trees, magnolia trees, wisterias, genisteas, white birches.

### **Shelters for the species**

To provide shelter for bird species such as woodpeckers, sparrows, and starlings against some dominant species such as crows, and pied crows; and to prevent the undesired effects of harsh weather conditions, we place wooden bird nests on trees.





Promoting land-specific species and extending them



Natural flora at the heart of the metropolitan area



Preserving long-appreciated species

### Minding the surroundings

Also, to serve the same purpose, we leave the dried old trees which have completed their life spans on the ground unless they present the danger to their surroundings, animals, people, and such. Those trees are also natural wildlife reserves. This also prevents any biodiversity elements from losing their natural habitats and is a natural way for the preservation and continuance of natural life.

### Preserving the environment

In addition to small birds, and parrots; in 2021 bird nests for bigger birds such as doves and other campus habitants that especially target campus buildings for nest are being built next to buildings. This is done in an attempt to create a balance among the species on campus and to prevent them from nesting in the buildings and getting hurt.



A photograph of a garden bed with green plants, a shovel, and pipes. The plants are dense and green, growing in a bed of dark soil. A shovel with a yellow handle and a blue head is lying on a wooden plank to the right of the plants. In the background, there are several white pipes running along a wall.

# On-campus **Greenhouse** for growing plants



Through collecting seeds from the plants currently available on campuses, we plant them in the greenhouse built on Yildiz Campus. This way, the plants we need for landscaping and other purposes, we get to have them available all the time.





# Sustainable maintenance of the planted area



## ORGANIZATIONAL SUSTAINABILITY

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While making specific reference to conservation and maintenance regarding sustainable development, ensuring sustainability in doing so is prioritized at YTU.

Contributing to the aim of organizational sustainability, we often get to act quick in applications such as slope stabilization or preventing land erosions, without any delays the plants can be put on land immediately. This is

also practical in finding the same species of a particular plant which dries or gets sick at times.



# PROTECTING SPECIES

## CREATING SHELTERS FOR SPECIES



MAKING IT EASY FOR BIRDS TO  
BUILD NESTS



KEEPING THE TREES COMPLETING  
THEIR LIFE SPANS ON SITE

To provide shelter for bird species such as woodpeckers, sparrows, and starlings against some dominant species such as crows, and pied crows; and to prevent the undesired effects of harsh weather conditions, wooden bird nests suitable for the above species are placed on trees.

The other species' invasion is also prevented with an approach taking their behaviours into consideration.

Also, to serve the same purpose, we leave the dried old trees which have completed their life spans on the ground unless they present the danger to their surroundings, animals, people, and such. Those trees are also natural wildlife reserves. This also prevents any biodiversity elements from losing their natural habitats and is a natural way for the preservation and continuance of natural life.



## CREATING A BALANCE



Doves and pigeons are the two commonest city birds. They are adaptable species and they take advantage of a potential food source or sites they think are suitable for nesting. For some time, they had been targeting one of the greatest buildings on Davutpasa campus for nesting and breeding. In order to prevent the pollution to the building and create a balance among the species on campus and to prevent them from nesting inside the building and getting hurt while doing so, bird nests in the photographs were built. They were designed specifically for doves and pigeons and for crows and other wild species not to be able to nest or get inside and disturb them. There is no room for perch or roost on the main nest for other birds such as crows or other predators, pigeons and doves are able to fly directly into the nests.





## Evergreen Trees

The age average of the trees on our campuses is between 20 and 30 years. However, we take special care in the care of the old evergreen trees, which are 100-120 old. Restoration of those trees are carried out whenever necessary. Cavity filling procedures are applied, and we fight against fungus and other bacteria invasion. Pruning activities are made with extensive care in order to protect those trees from atmospheric conditions.





# Biodiversity **Index** of the University

There has been a recent project where the biodiversity index of the university has been made available for the campuses.



*Laurus nobilis*



*Pinus pinea*



*Tilia rubra*



*Morus alba*



*Cornus mas*



The green biodiversity elements of the campuses have been identified and tagged with QR-codes to include the details of the properties, locations, and height, etc. of the plants and trees along with the photographs and a short definition in order to raise environmental awareness among campus residents.

***Aesculus hippocastanum***

The Horse Chestnut

# DAVUTPASA CAMPUS

# Plant Inventory

#	Latin	Visuals and Description
1	<i>Acer campestre</i>	<a href="https://kampus.yildiz.edu.tr/ovaakcaagaci/">https://kampus.yildiz.edu.tr/ovaakcaagaci/</a>
2	<i>Acer negundo</i>	<a href="https://kampus.yildiz.edu.tr/disbudakyaprakliakcaagac/">https://kampus.yildiz.edu.tr/disbudakyaprakliakcaagac/</a>
3	<i>Acer palmatum</i>	<a href="https://kampus.yildiz.edu.tr/japonakcaagaci/">https://kampus.yildiz.edu.tr/japonakcaagaci/</a>
4	<i>Acer palmatum</i> 'Atropurpurea'	<a href="https://kampus.yildiz.edu.tr/kirmiziyapraklijaponakcaagaci/">https://kampus.yildiz.edu.tr/kirmiziyapraklijaponakcaagaci/</a>
5	<i>Acer platanoides</i> 'Crimson King'	<a href="https://kampus.yildiz.edu.tr/kirmizicininaryaprakliakcaagac/">https://kampus.yildiz.edu.tr/kirmizicininaryaprakliakcaagac/</a>
6	<i>Acer pseudoplatanus</i>	<a href="https://kampus.yildiz.edu.tr/dagakcaagaci/">https://kampus.yildiz.edu.tr/dagakcaagaci/</a>
7	<i>Acer rubrum</i> 'Red Sunset'	<a href="https://kampus.yildiz.edu.tr/kirmiziakcaagac/">https://kampus.yildiz.edu.tr/kirmiziakcaagac/</a>
8	<i>Aesculus hippocastanum</i>	<a href="https://kampus.yildiz.edu.tr/atkestanesi/">https://kampus.yildiz.edu.tr/atkestanesi/</a>
9	<i>Aesculus carnea</i> 'Briotii'	<a href="https://kampus.yildiz.edu.tr/atkestanesibriotii/">https://kampus.yildiz.edu.tr/atkestanesibriotii/</a>
10	<i>Albizia julibrissin</i>	<a href="https://kampus.yildiz.edu.tr/gulibrissim/">https://kampus.yildiz.edu.tr/gulibrissim/</a>
11	<i>Betula pendula</i>	<a href="https://kampus.yildiz.edu.tr/adihus/">https://kampus.yildiz.edu.tr/adihus/</a>
12	<i>Catalpa bignonioides</i>	<a href="https://kampus.yildiz.edu.tr/katalpa/">https://kampus.yildiz.edu.tr/katalpa/</a>
13	<i>Carpinus betulus</i> 'Fastigiata'	<a href="https://kampus.yildiz.edu.tr/sutungurgen/">https://kampus.yildiz.edu.tr/sutungurgen/</a>
14	<i>Celtis australis</i>	<a href="https://kampus.yildiz.edu.tr/citlembik/">https://kampus.yildiz.edu.tr/citlembik/</a>
15	<i>Cercis siliquastrum</i>	<a href="https://kampus.yildiz.edu.tr/erguvan/">https://kampus.yildiz.edu.tr/erguvan/</a>
16	<i>Cornus mas</i>	<a href="https://kampus.yildiz.edu.tr/kizilcik/">https://kampus.yildiz.edu.tr/kizilcik/</a>
17	<i>Corylus colurna</i>	<a href="https://kampus.yildiz.edu.tr/turkfindigi/">https://kampus.yildiz.edu.tr/turkfindigi/</a>
18	<i>Cydonia oblonga</i>	<a href="https://kampus.yildiz.edu.tr/ayva/">https://kampus.yildiz.edu.tr/ayva/</a>
19	<i>Diospyros kaki</i>	<a href="https://kampus.yildiz.edu.tr/trabzonhurmasi/">https://kampus.yildiz.edu.tr/trabzonhurmasi/</a>
20	<i>Fraxinus angustifolia</i>	<a href="https://kampus.yildiz.edu.tr/sivrimeyvelidisbudak/">https://kampus.yildiz.edu.tr/sivrimeyvelidisbudak/</a>
21	<i>Fraxinus excelsior</i>	<a href="https://kampus.yildiz.edu.tr/adidisbudak/">https://kampus.yildiz.edu.tr/adidisbudak/</a>
22	<i>Hibiscus syriacus</i>	<a href="https://kampus.yildiz.edu.tr/agachatmi/">https://kampus.yildiz.edu.tr/agachatmi/</a>
23	<i>Koelreuteria paniculata</i>	<a href="https://kampus.yildiz.edu.tr/guveykandili/">https://kampus.yildiz.edu.tr/guveykandili/</a>
24	<i>Lagerstroemia indica</i>	<a href="https://kampus.yildiz.edu.tr/oyaagaci/">https://kampus.yildiz.edu.tr/oyaagaci/</a>
25	<i>Laurocerasus officinalis</i>	<a href="https://kampus.yildiz.edu.tr/karayemis/">https://kampus.yildiz.edu.tr/karayemis/</a>
26	<i>Laburnum x watereri</i> 'Vossii'	<a href="https://kampus.yildiz.edu.tr/sarisalkim/">https://kampus.yildiz.edu.tr/sarisalkim/</a>
27	<i>Ligustrum japonicum</i>	<a href="https://kampus.yildiz.edu.tr/japonkurtbagri/">https://kampus.yildiz.edu.tr/japonkurtbagri/</a>
28	<i>Liquidambar styraciflua</i>	<a href="https://kampus.yildiz.edu.tr/amerikansiglaagaci/">https://kampus.yildiz.edu.tr/amerikansiglaagaci/</a>
29	<i>Magnolia grandiflora</i>	<a href="https://kampus.yildiz.edu.tr/buyukciceklimanolya/">https://kampus.yildiz.edu.tr/buyukciceklimanolya/</a>
30	<i>Magnolia kobus</i>	<a href="https://kampus.yildiz.edu.tr/kobusimanolyasi/">https://kampus.yildiz.edu.tr/kobusimanolyasi/</a>



# Broad-leaved trees and Shrubs

#	Latin	Visuals and Description
31	<i>Magnolia stellata</i>	<a href="https://kampus.yildiz.edu.tr/beyazcicekliyaprakdokenmanolya/">https://kampus.yildiz.edu.tr/beyazcicekliyaprakdokenmanolya/</a>
32	<i>Malus domestica</i>	<a href="https://kampus.yildiz.edu.tr/elma/">https://kampus.yildiz.edu.tr/elma/</a>
33	<i>Malus floribunda</i>	<a href="https://kampus.yildiz.edu.tr/suselmasi/">https://kampus.yildiz.edu.tr/suselmasi/</a>
34	<i>Morus alba</i>	<a href="https://kampus.yildiz.edu.tr/akdut/">https://kampus.yildiz.edu.tr/akdut/</a>
35	<i>Paulownia tomentosa</i>	<a href="https://kampus.yildiz.edu.tr/pavlonya/">https://kampus.yildiz.edu.tr/pavlonya/</a>
36	<i>Platanus x acerifolia</i>	<a href="https://kampus.yildiz.edu.tr/akcaagacyapraklicinar/">https://kampus.yildiz.edu.tr/akcaagacyapraklicinar/</a>
37	<i>Platanus occidentalis</i>	<a href="https://kampus.yildiz.edu.tr/baticinari/">https://kampus.yildiz.edu.tr/baticinari/</a>
38	<i>Platanus orientalis</i>	<a href="https://kampus.yildiz.edu.tr/dogucinari/">https://kampus.yildiz.edu.tr/dogucinari/</a>
39	<i>Populus alba</i>	<a href="https://kampus.yildiz.edu.tr/akkavak/">https://kampus.yildiz.edu.tr/akkavak/</a>
40	<i>Prunus domestica</i>	<a href="https://kampus.yildiz.edu.tr/erik/">https://kampus.yildiz.edu.tr/erik/</a>
41	<i>Prunus avium</i>	<a href="https://kampus.yildiz.edu.tr/kiraz/">https://kampus.yildiz.edu.tr/kiraz/</a>
42	<i>Prunus cerasifera</i>	<a href="https://kampus.yildiz.edu.tr/suserigi/">https://kampus.yildiz.edu.tr/suserigi/</a>
43	<i>Prunus cerasus</i>	<a href="https://kampus.yildiz.edu.tr/visne/">https://kampus.yildiz.edu.tr/visne/</a>
44	<i>Prunus domestica subsp. Insitia</i>	<a href="https://kampus.yildiz.edu.tr/murdumerigi/">https://kampus.yildiz.edu.tr/murdumerigi/</a>
45	<i>Prunus mahaleb</i>	<a href="https://kampus.yildiz.edu.tr/mahlep/">https://kampus.yildiz.edu.tr/mahlep/</a>
46	<i>Prunus persica</i>	<a href="https://kampus.yildiz.edu.tr/seftali/">https://kampus.yildiz.edu.tr/seftali/</a>
47	<i>Prunus serrulata 'Kanzan'</i>	<a href="https://kampus.yildiz.edu.tr/suskirazi/">https://kampus.yildiz.edu.tr/suskirazi/</a>
48	<i>Punica granatum</i>	<a href="https://kampus.yildiz.edu.tr/nar/">https://kampus.yildiz.edu.tr/nar/</a>
49	<i>Pyrus communis</i>	<a href="https://kampus.yildiz.edu.tr/armut/">https://kampus.yildiz.edu.tr/armut/</a>
50	<i>Quercus ilex</i>	<a href="https://kampus.yildiz.edu.tr/pirnalmesi/">https://kampus.yildiz.edu.tr/pirnalmesi/</a>
51	<i>Robinia pseudoacacia</i>	<a href="https://kampus.yildiz.edu.tr/salkimagac/">https://kampus.yildiz.edu.tr/salkimagac/</a>
52	<i>Sorbus aucuparia</i>	<a href="https://kampus.yildiz.edu.tr/kusuvezi/">https://kampus.yildiz.edu.tr/kusuvezi/</a>
53	<i>Tilia argentea</i>	<a href="https://kampus.yildiz.edu.tr/gumusiihlamur/">https://kampus.yildiz.edu.tr/gumusiihlamur/</a>
54	<i>Tilia cordata</i>	<a href="https://kampus.yildiz.edu.tr/kucukyaprakliihlamur/">https://kampus.yildiz.edu.tr/kucukyaprakliihlamur/</a>
55	<i>Tilia platyphyllos</i>	<a href="https://kampus.yildiz.edu.tr/buyukyaprakliihlamur/">https://kampus.yildiz.edu.tr/buyukyaprakliihlamur/</a>
56	<i>Tilia rubra</i>	<a href="https://kampus.yildiz.edu.tr/kafkasihlamuru/">https://kampus.yildiz.edu.tr/kafkasihlamuru/</a>



# HOME TO SPECIES



*Aesculus hippocastanum*

Forest ecosystem on the campuses is vital to the protection of the biodiversity elements.

Recently, as many as 100+ pinus pinea in addition to regular the tree planting events as part of landscaping work.

Tree-planting events are also an indispensable part of raising environmental awareness.



# TREE INDEX OVERVIEW

# Plant Inventory

The university also prioritize taking care of the long-lasting trees as well as creating new forest areas in and out of campus.



*Cupressus sempervirens*



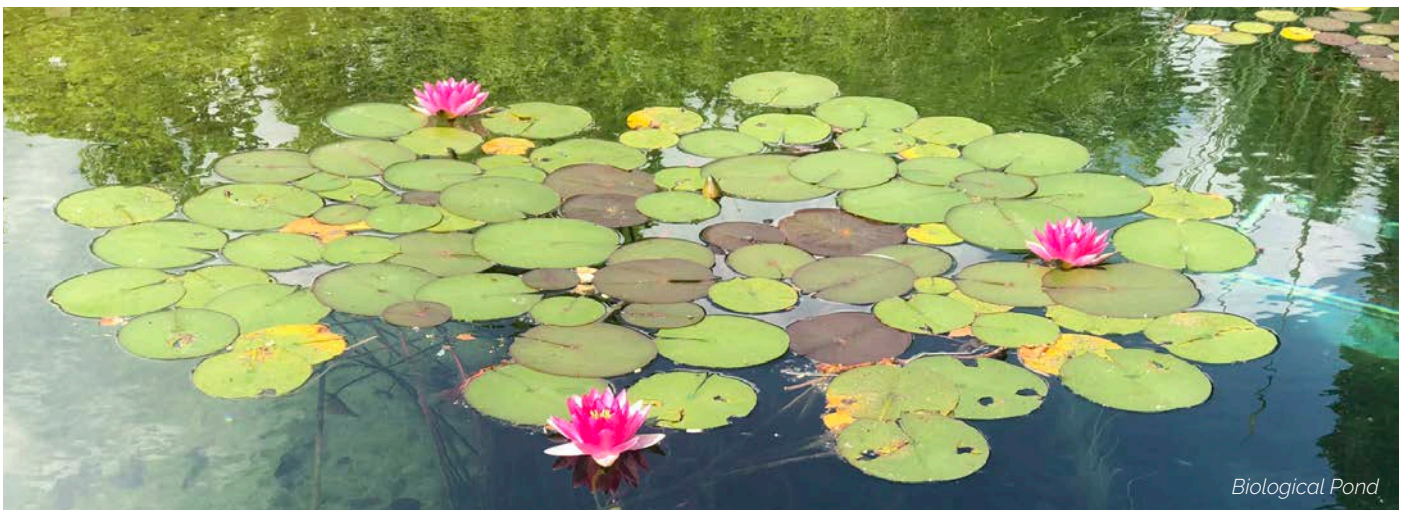
*Liquidambar orientalis*



# DAVUTPASA CAMPUS

## *Broad-leaved trees and Shrubs*

#	Latin	Visuals and Description
1	<i>Abies pinsapo</i>	<a href="https://kampus.yildiz.edu.tr/ispanyagoknari/">https://kampus.yildiz.edu.tr/ispanyagoknari/</a>
2	<i>Cedrus deodora</i>	<a href="https://kampus.yildiz.edu.tr/himalayasediri/">https://kampus.yildiz.edu.tr/himalayasediri/</a>
3	<i>Cedrus libani</i>	<a href="https://kampus.yildiz.edu.tr/torossediri/">https://kampus.yildiz.edu.tr/torossediri/</a>
4	<i>Cupressus arizonica</i>	<a href="https://kampus.yildiz.edu.tr/maviarizonaservisi/">https://kampus.yildiz.edu.tr/maviarizonaservisi/</a>
5	<i>Cupressus sempervirens</i> var. ' <i>Pyramidalis</i> '	<a href="https://kampus.yildiz.edu.tr/akdenizservisi/">https://kampus.yildiz.edu.tr/akdenizservisi/</a>
6	<i>Ginkgo biloba</i>	<a href="https://kampus.yildiz.edu.tr/mabetagaci/">https://kampus.yildiz.edu.tr/mabetagaci/</a>
7	<i>Juniperus x media</i> ' <i>Pfitzeriana Aurea</i> '	<a href="https://kampus.yildiz.edu.tr/altuniyayiliciardic/">https://kampus.yildiz.edu.tr/altuniyayiliciardic/</a>
8	<i>Juniperus squamata</i> ' <i>Bluecarpet</i> '	<a href="https://kampus.yildiz.edu.tr/yayilicimavikilim/">https://kampus.yildiz.edu.tr/yayilicimavikilim/</a>
9	<i>Picea abies</i> ' <i>Glauca</i> '	<a href="https://kampus.yildiz.edu.tr/avrupaladini/">https://kampus.yildiz.edu.tr/avrupaladini/</a>
10	<i>Picea pungens</i>	<a href="https://kampus.yildiz.edu.tr/maviladin/">https://kampus.yildiz.edu.tr/maviladin/</a>
11	<i>Pinus brutia</i>	<a href="https://kampus.yildiz.edu.tr/kizilcam/">https://kampus.yildiz.edu.tr/kizilcam/</a>
12	<i>Pinus nigra</i> subsp. <i>pallasiana</i> var. <i>pallasiana</i>	<a href="https://kampus.yildiz.edu.tr/anadolukaracami/">https://kampus.yildiz.edu.tr/anadolukaracami/</a>
13	<i>Pinus pinaster</i>	<a href="https://kampus.yildiz.edu.tr/sahilcami/">https://kampus.yildiz.edu.tr/sahilcami/</a>
14	<i>Pinus pinea</i>	<a href="https://kampus.yildiz.edu.tr/fistikcami/">https://kampus.yildiz.edu.tr/fistikcami/</a>
15	<i>Platycladus orientalis</i>	<a href="https://kampus.yildiz.edu.tr/dogumazisi/">https://kampus.yildiz.edu.tr/dogumazisi/</a>
16	<i>Taxus baccata</i>	<a href="https://kampus.yildiz.edu.tr/sutunporsuk/">https://kampus.yildiz.edu.tr/sutunporsuk/</a>
17	<i>Thuja occidentalis</i>	<a href="https://kampus.yildiz.edu.tr/batimazisi/">https://kampus.yildiz.edu.tr/batimazisi/</a>
18	<i>Thuja plicata</i>	<a href="https://kampus.yildiz.edu.tr/boylumazi/">https://kampus.yildiz.edu.tr/boylumazi/</a>



Biological Pond

# Plant Inventory

## Broad-leaved trees and Shrubs

#	Latin	Visuals and Description
1	<i>Cotoneaster dammeri</i>	<a href="https://kampus.yildiz.edu.tr/yayilicitaselmasi/">https://kampus.yildiz.edu.tr/yayilicitaselmasi/</a>
2	<i>Euonymus alatus</i>	<a href="https://kampus.yildiz.edu.tr/yaprakdokenjapontaflani/">https://kampus.yildiz.edu.tr/yaprakdokenjapontaflani/</a>
3	<i>Euonymus japonica</i>	<a href="https://kampus.yildiz.edu.tr/altunitaflan/">https://kampus.yildiz.edu.tr/altunitaflan/</a>
4	<i>Forsythia intermedia</i>	<a href="https://kampus.yildiz.edu.tr/altincani/">https://kampus.yildiz.edu.tr/altincani/</a>
5	<i>Kerria japonica</i>	<a href="https://kampus.yildiz.edu.tr/kanaryagulu/">https://kampus.yildiz.edu.tr/kanaryagulu/</a>
6	<i>Laurus nobilis</i>	<a href="https://kampus.yildiz.edu.tr/kanaryagulu/">https://kampus.yildiz.edu.tr/kanaryagulu/</a>
7	<i>Lonicera nitida</i>	<a href="https://kampus.yildiz.edu.tr/yayilicihanimele/">https://kampus.yildiz.edu.tr/yayilicihanimele/</a>
8	<i>Nandina domestica</i>	<a href="https://kampus.yildiz.edu.tr/bodurnandina/">https://kampus.yildiz.edu.tr/bodurnandina/</a>
9	<i>Philadelphus coronarius</i>	<a href="https://kampus.yildiz.edu.tr/filbahri/">https://kampus.yildiz.edu.tr/filbahri/</a>
10	<i>Photinia x fraseri</i>	<a href="https://kampus.yildiz.edu.tr/alevcalisi/">https://kampus.yildiz.edu.tr/alevcalisi/</a>
11	<i>Pittosporum tobira</i>	<a href="https://kampus.yildiz.edu.tr/bodurcitkirildimcalisi/">https://kampus.yildiz.edu.tr/bodurcitkirildimcalisi/</a>
12	<i>Rhaphiolepis umbellata</i>	<a href="https://kampus.yildiz.edu.tr/japoncalisi/">https://kampus.yildiz.edu.tr/japoncalisi/</a>
13	<i>Rosa beggeriana</i>	<a href="https://kampus.yildiz.edu.tr/ahmediyegulu/">https://kampus.yildiz.edu.tr/ahmediyegulu/</a>
14	<i>Rosa cinnamomea</i>	<a href="https://kampus.yildiz.edu.tr/tarcingulu/">https://kampus.yildiz.edu.tr/tarcingulu/</a>
15	<i>Rosa damascena</i>	<a href="https://kampus.yildiz.edu.tr/ispartagulu/">https://kampus.yildiz.edu.tr/ispartagulu/</a>
16	<i>Rosa foetida</i>	<a href="https://kampus.yildiz.edu.tr/acemgulu/">https://kampus.yildiz.edu.tr/acemgulu/</a>
17	<i>Rosa gallica var. Damascena</i>	<a href="https://kampus.yildiz.edu.tr/kirmizipeygambergulu/">https://kampus.yildiz.edu.tr/kirmizipeygambergulu/</a>
18	<i>Rosa gallica var. Officinalis</i>	<a href="https://kampus.yildiz.edu.tr/frenkgulu/">https://kampus.yildiz.edu.tr/frenkgulu/</a>
19	<i>Rosa hemisphaerica</i>	<a href="https://kampus.yildiz.edu.tr/katmerlisarigul/">https://kampus.yildiz.edu.tr/katmerlisarigul/</a>
20	<i>Rosa iberica</i>	<a href="https://kampus.yildiz.edu.tr/anadolugulu/">https://kampus.yildiz.edu.tr/anadolugulu/</a>
21	<i>Rosa moschata</i>	<a href="https://kampus.yildiz.edu.tr/miskgulu/">https://kampus.yildiz.edu.tr/miskgulu/</a>
22	<i>Rosa multiflora</i>	<a href="https://kampus.yildiz.edu.tr/kirkkandilgulu/">https://kampus.yildiz.edu.tr/kirkkandilgulu/</a>
23	<i>Rosa pisiformis</i>	<a href="https://kampus.yildiz.edu.tr/nazarlikgulu/">https://kampus.yildiz.edu.tr/nazarlikgulu/</a>
24	<i>Rosa sempervirens</i>	<a href="https://kampus.yildiz.edu.tr/ulmezugul/">https://kampus.yildiz.edu.tr/ulmezugul/</a>
25	<i>Rosa sp.</i>	<a href="https://kampus.yildiz.edu.tr/siyahhalfetigulu/">https://kampus.yildiz.edu.tr/siyahhalfetigulu/</a>
26	<i>Rosa sp. Meiland</i>	<a href="https://kampus.yildiz.edu.tr/kirmizimeylandgulu/">https://kampus.yildiz.edu.tr/kirmizimeylandgulu/</a>
27	<i>Spartium junceum</i>	<a href="https://kampus.yildiz.edu.tr/ispanyolkatirtirnagi/">https://kampus.yildiz.edu.tr/ispanyolkatirtirnagi/</a>
28	<i>Spirea bumalda</i>	<a href="https://kampus.yildiz.edu.tr/pembeciceklikecisakali/">https://kampus.yildiz.edu.tr/pembeciceklikecisakali/</a>





# Biodiversity index work

The labels contained information on the Turkish and Latin description of the plant, the size of the plant (form, diameter, and height), how much they rely on sunlight, origin, family, characteristic of their leaves and fruit, and location on campus.

For this purpose, for 1300 trees and plants on Yildiz and Davutpasa Campuses, plant labels were prepared.

## Perennials, Perennations, and, Groundcover

The applications of plant tags have been extended all over the campuses to cover one third of the total area of trees.

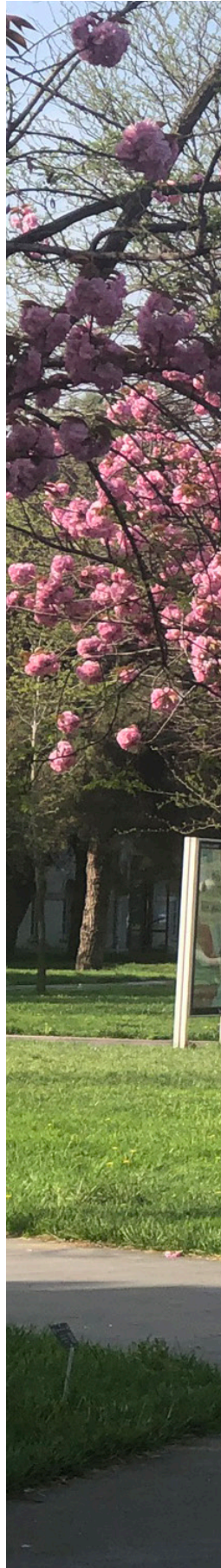
The initial study was confined to certain areas on both campus and will be applied to all campus areas in the future.

This was done in an attempt to raise awareness regarding the biological diversity on campus, the application of the sustainable development principles, and the promotion of the idea of smart green campuses.

#	Latin
1	<i>Agapanthus sp.</i>
2	<i>Begonia</i>
3	<i>Carex oshimensis</i>
4	<i>Cerastium tomentosum</i>
5	<i>Hakonechloa macra</i>
6	<i>Hedera helix 'Alba Marginata'</i>
7	<i>Hosta sp. 'Aurea Margmata'</i>
8	<i>Iris sp.</i>
9	<i>Kniphofia x hybrida</i>
10	<i>Laburnum vulgare</i>
11	<i>Lampranthus roseus</i>
12	<i>Lavandula officinalis</i>
13	<i>Oxalis comiculata</i>
14	<i>Tagates</i>
15	<i>Vinca minor</i>
16	<i>Vinca minor 'Aureovariegata'</i>
17	<i>Wisteria sinensis</i>



kampus.yildiz.edu.tr





Central garden where the biodiversity index work has recently been completed.



The index work is planned for all biodiversity elements



Campus-wide work is underway throughout campuses



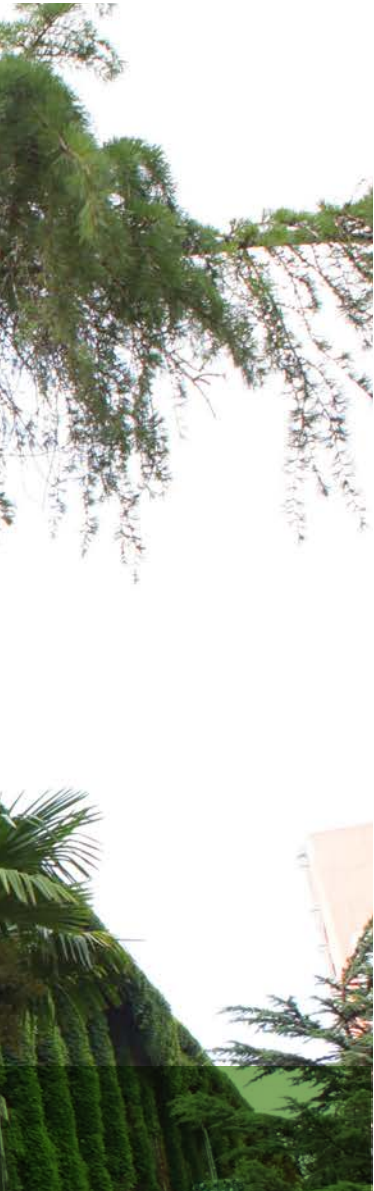




*The biodiversity inventory on the campus was conducted by an expert team. However, the plants and animals were not identified in order for the campus shareholders to be aware of the surrounding environment.*

*Faculty of Mechanical Engineering*





ous have been completed by an  
trees have not yet been tagged yet  
to grow more conscious about the



# Yildiz Campus

The following index belongs to the plant inventory on Yildiz Campus.

## 'Broad-leaved trees and Shrubs':

#	Latin
1	<i>Acer campastre</i>
2	<i>Acer negundo</i>
3	<i>Acer sp.</i>
4	<i>Aesculus hippocastanum</i>
5	<i>Ailanthus altissima</i>
6	<i>Albizia julibrissin</i>
7	<i>Celtis australis</i>
8	<i>Cerris siliquastrum</i>
9	<i>Fraxinus ornus</i>
10	<i>Fraxinus sp.</i>
11	<i>Gleditsia triacanthos</i>
12	<i>Juglans sp.</i>
13	<i>Magnolia grandiflora</i>
14	<i>Magnolia soulangeana</i>
15	<i>Morus alba pendula</i>
16	<i>Morus sp.</i>
17	<i>Paulownia sp.</i>
18	<i>Pistacia atlantica</i>
19	<i>Platanus acerifolia</i>
20	<i>Platanus orientalis</i>
21	<i>Quercus petraea</i>
22	<i>Robinia pseudoacacia</i>
23	<i>Salix matsudana</i>
24	<i>Tilia tomentosa</i>
25	<i>Ulmus sp.</i>



# Yildiz Campus

The following list is comprised of the '*Redwoods and Shrubs*' on Yildiz Campus, which are sustainably maintained and taken care of:

#	Latin
1	<i>Abies sp.</i>
2	<i>Cedrus deodora</i>
3	<i>Cedrus libani</i>
4	<i>Cupressocyparis leylandii</i>
5	<i>Cupressus arizonica</i>
6	<i>Cupressus sempervirens</i>
7	<i>Cryptomeria japonica</i>
8	<i>Picea abies</i>
9	<i>Picea orientalis</i>
10	<i>Picea pungens</i>
11	<i>Pinus brutia</i>
12	<i>Pinus graffittii</i>
13	<i>Pinus nigra</i>
14	<i>Pinus pinaster</i>
15	<i>Pinus pinea</i>
16	<i>Taxus baccata</i>
17	<i>Thuja orientalis</i>
18	<i>Thuja plicata</i>







## Soil Protection

A sample of rainwater harvesting system, smart irrigation, lighting, and fertilization, as well as zero waste systems have been put into use in the campus parts which were completed as part of a project with the Ministry of Environment and Urbanization.



## Soil Mulching

Organic fertilizers are obtained from branches, barks, leaves, and grass waste collected from the entire campus, which are later used for the plants. Therefore, the number of chemical fertilizers used in the campus has been decreasing recently.



## Decreasing Irrigation

The amount of irrigation has also been reduced by covering the soil with the mulch obtained from plant waste. Mulching is also beneficial in protecting soil from wind erosion as well as erosion from surface waters and sloping land.





## Fighting Alien Species

YTU Landscaping Unit closely monitors *Ailanthus altissima* and other trees and plants on campuses to manage basal shoots which pose several threats to the parent or neighboring trees and plants.



## *Ailanthus Altissima*

*Ailanthus Altissima* species are also a special concern of the Landscaping Unit, aside from the daily landscaping and maintenance activities, as they require an effective management for basal shoots.



## Fighting Mosquitos

Natural campus ecosystem accompanied by wet weather and high humidity conditions is often advantageous to the breeding of mosquitos. *Gambusia affinis* (mosquitofish) have been released in one of our ecological ponds on campus.

Yildiz Campus,  
Mid-campus Area





# Yildiz Campus

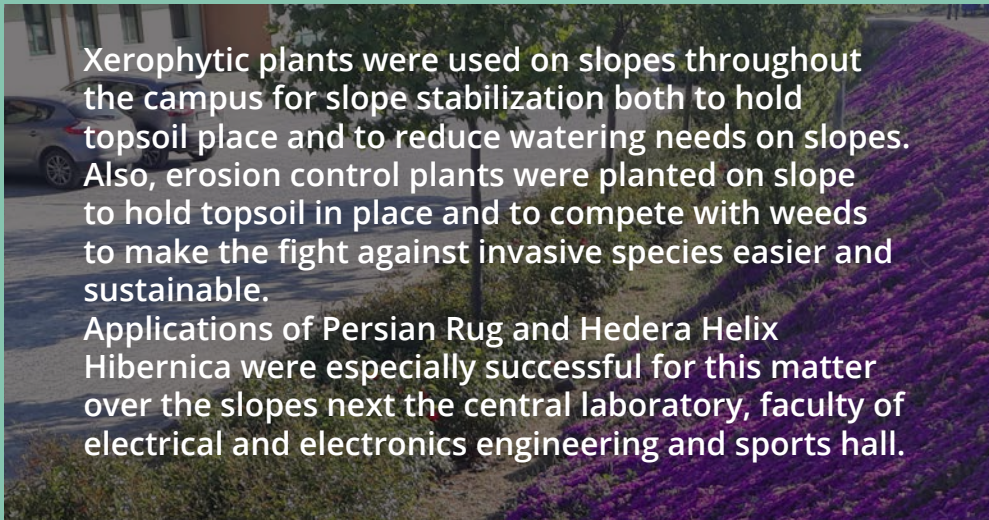
The following list is comprised of the '*Bushes*' on Yildiz Campus, which are sustainably maintained and taken care of:

#	Latin
1	<i>Arbutus unedo</i>
2	<i>Buxus sempervirens</i>
3	<i>Campsis radicans</i>
4	<i>Crataegus monogyna</i>
5	<i>Diospyros lotus L.</i>
6	<i>Hibiscus syriacus</i>
7	<i>Lagerstromia indica</i>
8	<i>Laurocerassus officinalis</i>
9	<i>Laurus nobilis</i>
10	<i>Ligustrum ovalifolium</i>
11	<i>Ligustrum vulgare</i>
12	<i>Phillyrea sp.</i>
13	<i>Pittosporum tobira</i>
14	<i>Pyracantha coccinea</i>
15	<i>Syringa sp.</i>
16	<i>Viburnum sp.</i>
17	<i>Wisteria sinensis</i>



PROTECTING

# THE SOIL



Xerophytic plants were used on slopes throughout the campus for slope stabilization both to hold topsoil place and to reduce watering needs on slopes. Also, erosion control plants were planted on slope to hold topsoil in place and to compete with weeds to make the fight against invasive species easier and sustainable.

Applications of Persian Rug and Hedera Helix Hibernica were especially successful for this matter over the slopes next the central laboratory, faculty of electrical and electronics engineering and sports hall.





# ENHANCING BIODIVERSITY THROUGH PLANTATION AND VEGETATION

In addition to routine work devoted to landscaping of the campus area, special projects are carried out in order to maintain and enhance the biodiversity of the campuses of the university.

Within the scope a special project for landscaping with the Ministry of Environment and Urbanization, a total of 1100 trees, 5750 bushes and 26500 perennial plants and flowers were planted on Davutpasa Campus.

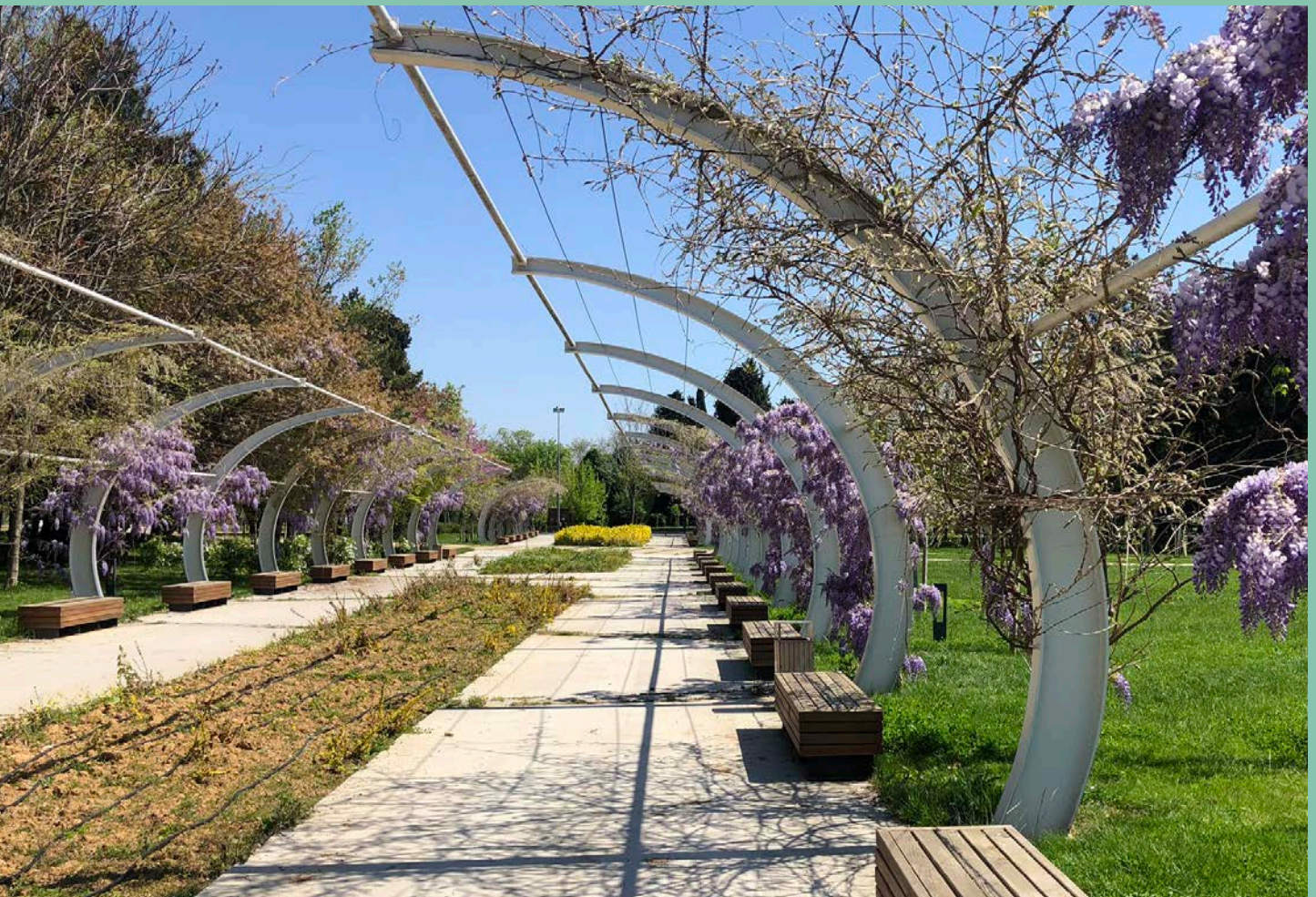
Within the context of the project, natural species such as Cinar, Linden and Redbuds, which are naturally found in the flora of Istanbul, and species such as Magnolia, Marshmallow, Wisteria and Sarisalkım, which have been frequently seen in our green areas for the last 200 years, even if they are not natural, have been provided. The plantation and vegetation applications within this context provided a mixture of historical standings and cultural texture.

Also the same project involved plant tunnels for

raising environmental awareness, recreational value, and increasing biodiversity on campus.

A sample of rainwater harvesting system, smart irrigation, lighting, and fertilization, as well as zero waste systems have been put into use in the campus parts which were completed as part of a project with the Ministry of Environment and Urbanization.

Organic fertilizers are obtained from branches, barks, leaves, and grass waste collected from the entire campus, which are later used for the plants. Therefore, the number of chemical fertilizers used in the campus has been decreasing recently. The amount of irrigation has also been reduced by covering the soil with the mulch obtained from plant waste. Due to the location of our Davutpaşa campus and the vast amount of land it covers, strong winds become dominant at times. Mulching is also beneficial in protecting soil from wind erosion as well as erosion resulting from surface waters and sloping land.





# KEY ACTION AREAS

For Preventing the Loss of Biodiversity



**REDUCE  
GREEN-SPACE  
MAINTENANCE  
COSTS**



**PREVENT SOIL  
EROSION**



**REDUCE CARBON  
FROM THE AIR**



## RAISING AWARENESS

To cultivate a sense and awareness of environmental sustainability, Yildiz Technical University allocate the necessary budget and resources for its shareholders to recognize the importance of maining campus biodiversity. Furthermore, YTU adopts it as its mission to prevent the loss of biodiversity at home and anwhere through projects and such. The university has determined three key areas to take action for maintaining the current ecosystem and preventing the loss of biodiversity, which are reducing green-soace maintenance costs, preventing soil erosion, and reducing carbon from the air.

YTU is convinced of the fact that the involvement of different parties in events targeted at raising environmental awareness encourages to grow more aware of their environment – both on campus and around them, to provide them with active learning experiences and with opportunity to become part of YTU's efforts for sustainable use of land on campus and figting to prevent the loss of diversity.



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