



# Using iNaturalist for Monitoring Invasive Species

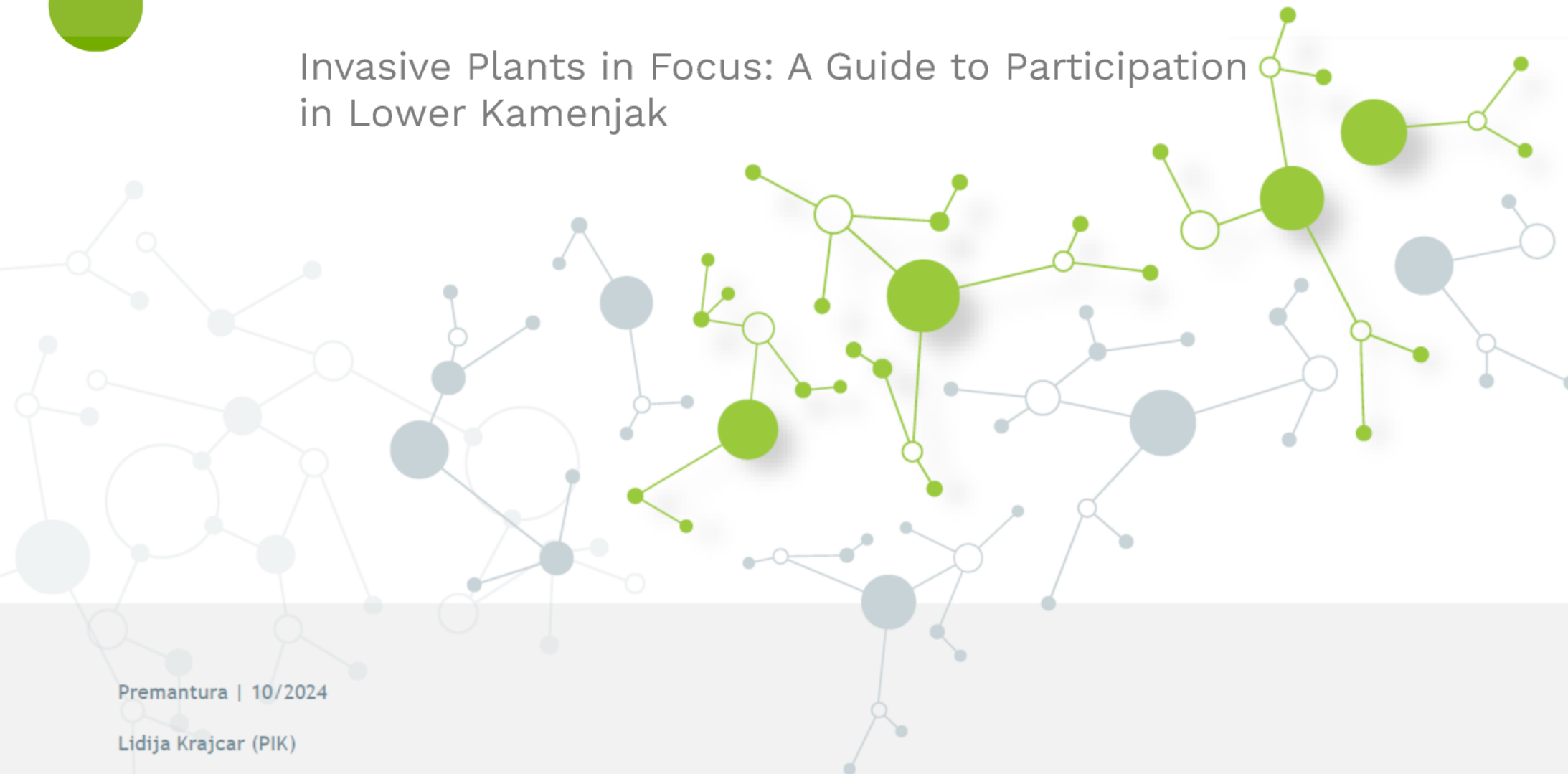
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HUMANITA

## Invasive Plants in Focus: A Guide to Participation in Lower Kamenjak



Kamenjak  
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Premantura | 10/2024

Lidija Krajcar (PIK)



# Introduction to iNaturalist

Naturalist is a global platform dedicated to documenting and sharing wildlife observations, engaging a community of naturalists and scientists.



# Overview of iNaturalist

iNaturalist is an online platform that allows users to record and share observations of biodiversity. It fosters collaboration between amateur naturalists and professional scientists, enabling the collection of valuable data on species distribution and conservation efforts.



# Purpose of the Guide

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This guide is designed to facilitate the use of iNaturalist by outlining its main features and functionalities. Users will learn how to make the most of the platform for posting observations, exploring data, and engaging with the community.



Explore



Observe



Community

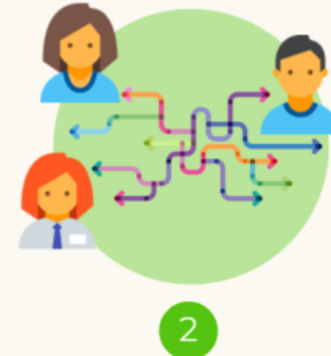
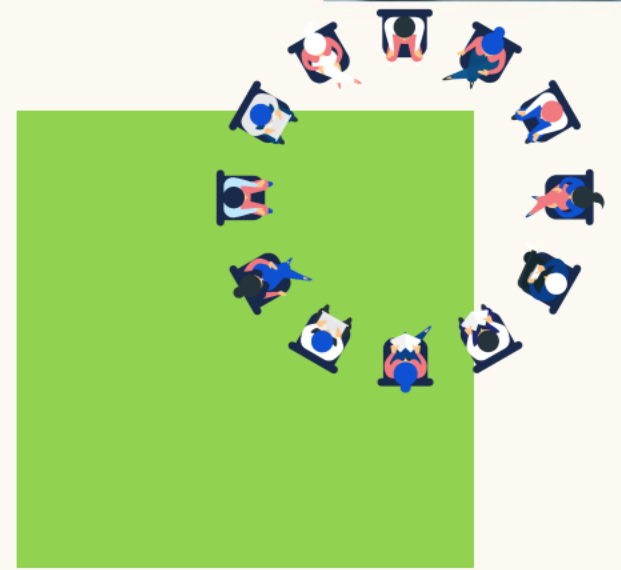


More



# Main Features

Key features of iNaturalist include the ability to post observations, explore extensive wildlife data, and connect with a community of identifiers and observers. The platform also includes various filters to personalize searches and discover specific species or locations.



A photograph of a flowering tree with green leaves and pink blossoms against a clear blue sky. The tree is in the foreground, and the sky is a solid, bright blue. The image is used as a background for the title slide.

# Introduction to Invasive Species

Invasive species are non-native plants or animals that, due to human activity, disrupt local ecosystems, posing significant threats to biodiversity and human health. Their introduction often leads to ecological imbalances, demonstrating the need for monitoring and management strategies.





# Definition of Invasive Species

Invasive species are organisms introduced to regions outside their natural habitats. Their presence can destabilize ecosystems, as they often lack natural predators, allowing them to proliferate unchecked, ultimately displacing native flora and fauna.

# Threats to Biodiversity

Invasive species can lead to significant biodiversity loss by outcompeting native species for resources. This disruption can alter habitat structures, endangering local wildlife and diminishing ecosystem resilience to environmental changes.







# Impact on Human Health

**Economic Burden:** The management and control of invasive species can incur significant healthcare and economic costs, diverting resources from other public health initiatives.

**Psychological Impact:** The loss of native species and natural landscapes due to invasives can affect mental well-being and cultural identity, particularly in communities closely tied to their environment.



# Climate Change and Invasive Species

Climate change alters habitats, making them more conducive for invasive species spread. Warmer temperatures and altered precipitation patterns enable invasive plants and animals to invade new areas, complicating ecological management efforts.



# Pathways of introduction of invasive species

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Migration/Relocation of People,  
Trade, Transport, Planting, Wind,  
Climate Change

Stowaways, Clothing, Suitcases,  
Ships, Ballast Water, Anchors,  
Ropes..

## How Invasive Species Spread?

Invasive Species can spread through :



Traveling and  
Luggage.



Ships and Boats.



Backyards.



Introduction as Pets  
or Pest Control.



Escaping Climate  
Change.



Migration.



# Common Invasive Plants in Lower Kamenjak

This section highlights significant invasive plant species identified in Lower Kamenjak, detailing their origins, habitats, and ecological impacts. Understanding these species is crucial for effective monitoring and management strategies.







## Spatial distribution of invasive species in the area of the significant landscape of Lower Kamenjak and the Medulin Archipelago

### List of foreign invasive species:

1. *Ailanthus altissima*
2. *Aster squamatus*
3. *Carpobrotus acinaciformis*
4. *Conyza canadensis*
5. *Phylostachys* sp.
6. *Robinia pseudoacacia* Linnaeus



# Tree of Heaven (*Ailanthus altissima*)

Originating from China, the Tree of Heaven was introduced to Europe in the 18th century. It thrives in disturbed urban areas and can dominate native vegetation, producing allelopathic chemicals that inhibit nearby plants' growth.







Eastern annual saltmarsh aster (*Aster squamatus* (Spreng.) Hieron)



# Squamated Aster (*Aster squamatus*)

Native to North America, Squamated Aster has spread widely as an ornamental plant. It prefers open fields and roadside areas, competing vigorously with native species for resources, thus reducing local biodiversity.





Elands sour fig (*Carpobrotus acinaciformis* (L.) L. Bollus)



## Elands sour fig (*Carpobrotus acinaciformis*)

Introduced from South Africa, Elands sour Fig is used for ground cover and erosion control. Its dense mats can smother native plants and disrupt local ecosystems, making it a significant ecological threat.







Horseweed (*Conyza canadensis* (L.) Cronquist)



# Horseweed (*Conyza canadensis*)

Originating in North America, Horseweed has naturalized across Europe and other continents. It thrives in disturbed soils and exhibits rapid growth, outcompeting native plants and reducing biodiversity.







Bamboo (*Phyllostachys* sp.)



# Bamboo

## (*Phyllostachys* sp.)

Various species of Bamboo, originally from Asia, are cultivated worldwide for ornamental and practical purposes. Its aggressive underground rhizome spread can alter habitats and compete effectively with native flora.





Black locust (*Robinia pseudoacacia* Linnaeus)



# Black Locust (*Robinia pseudoacacia* Linnaeus)

Black Locust, introduced from North America to Europe in the 17th century, thrives in sunny, disturbed areas. Its rapid growth and ability to fix nitrogen give it an advantage over native plants, promoting further invasiveness.

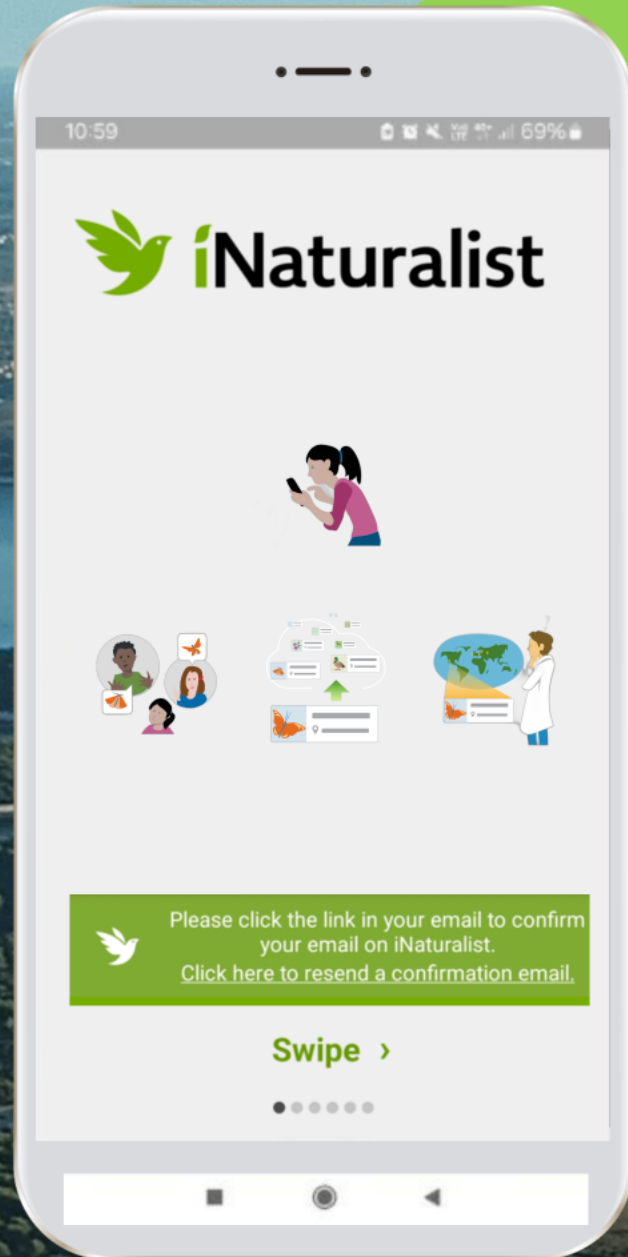
# Participation Steps with iNaturalist



Engagement through iNaturalist allows community members to actively contribute to monitoring invasive species, enhancing data accuracy and research efforts in Lower Kamenjak.







## *Joining the 'Invasive Alien Species' Project*



1

### Registration and Login

Open the app and register using your email address and log in to your account.



2

### Searching for Invasive Species

Select the "Explore" option, Type "invasive species", Filter the results by location to focus on the Lower Kamenjak area.



3

### Sharing Observations

If you notice any invasive species, you can document them.



4

### Interacting with the Community

Comment and ask questions.



5

### Notifications and Education

Receive notifications about new observations and events.



# 1. Installing iNaturalist on Your Smartphone

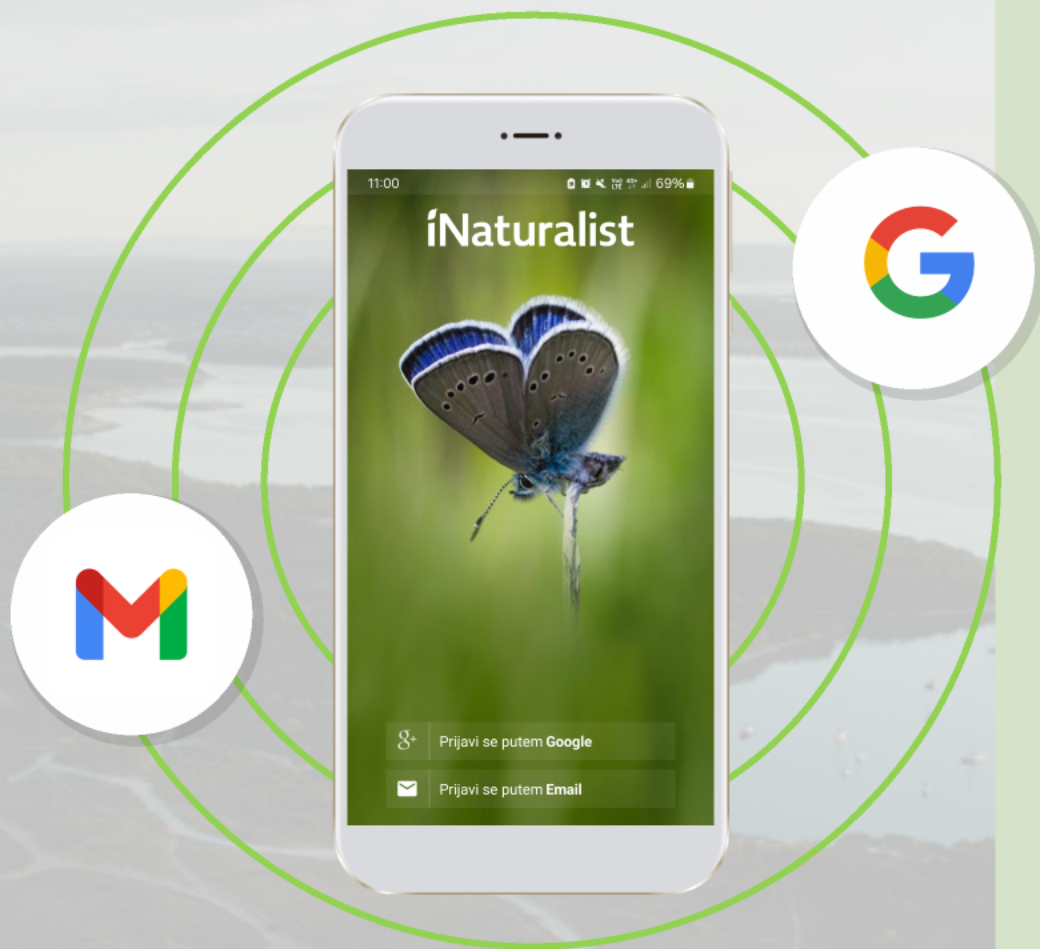
iNaturalist is available for download on both Android and iOS devices. Install the app to start participating in the citizen science project focused on monitoring invasive plant species in Lower Kamenjak.

DOWNLOAD



You can also access iNaturalist through a web browser at [www.inaturalist.org](http://www.inaturalist.org)





## Registration and Login



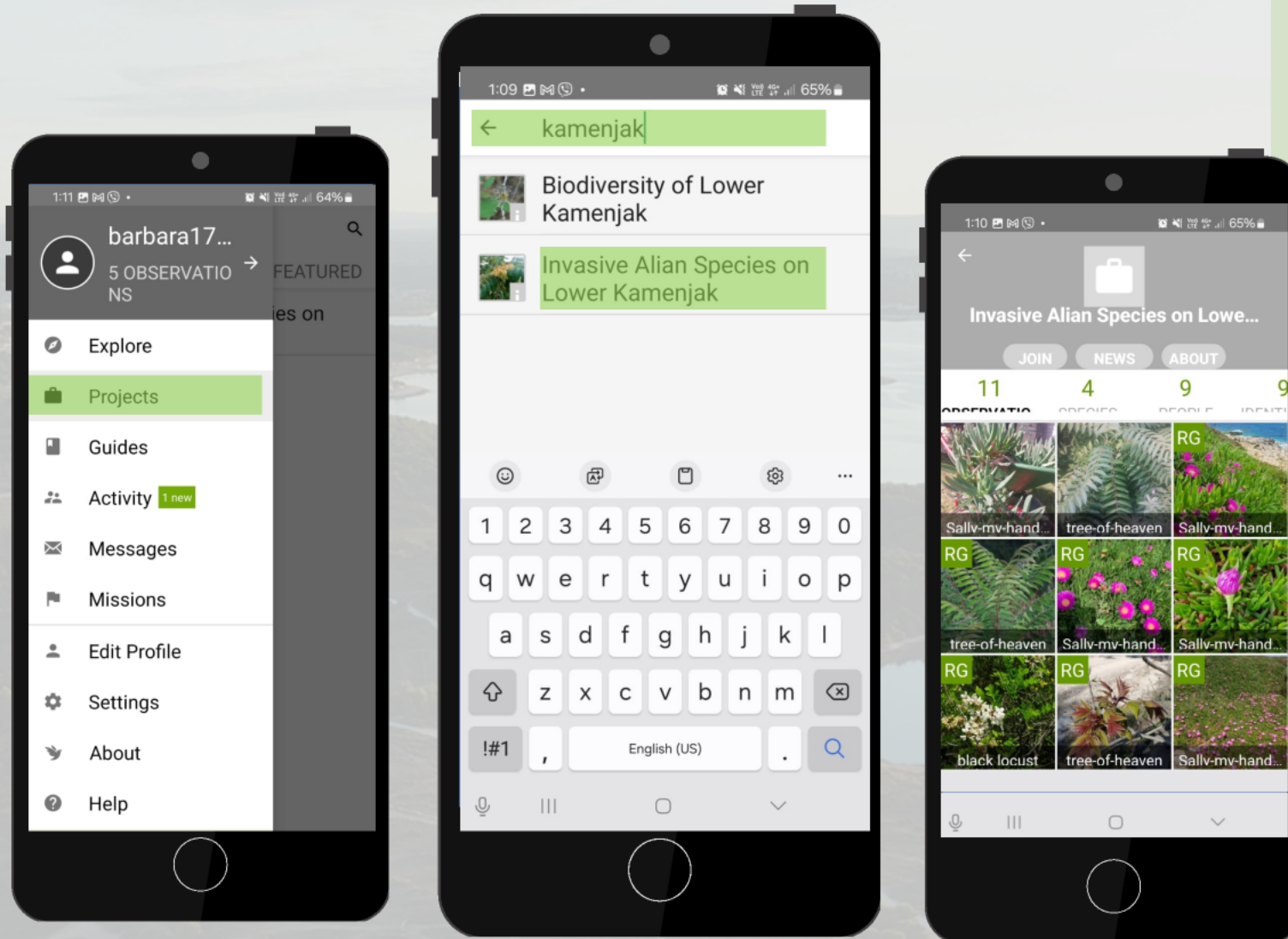
Open the app and register using your **email address** or through your Google account, or by connecting your social media accounts:



Log in to your account.



# Searching for Invasive Species



In the app's main menu, select the "**Projects**" option.

Type "**Kamenjak**" or species of interest in the search bar.

Filter results by location to focus on the **Lower Kamenjak** area.





# Sharing or Publish Observations

If you notice any invasive species, you can document them:



1

Select the "Observe" option.



2

Choose the species (you can search for it) or mark it as "unknown" if you're unsure.



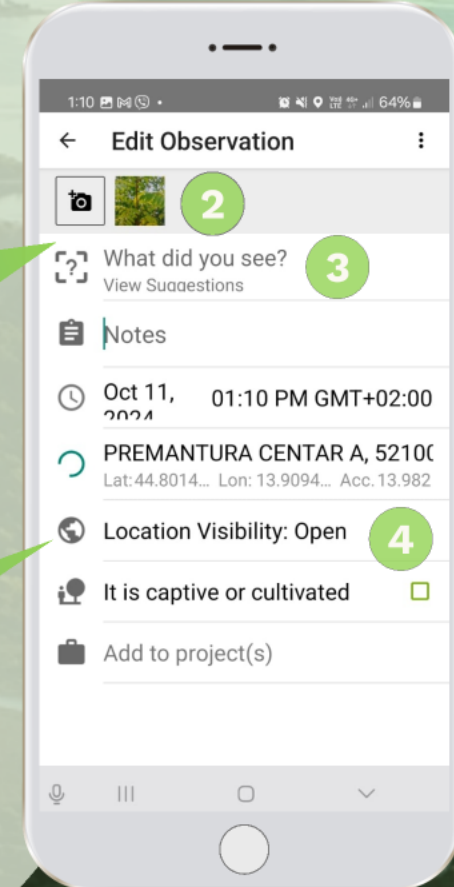
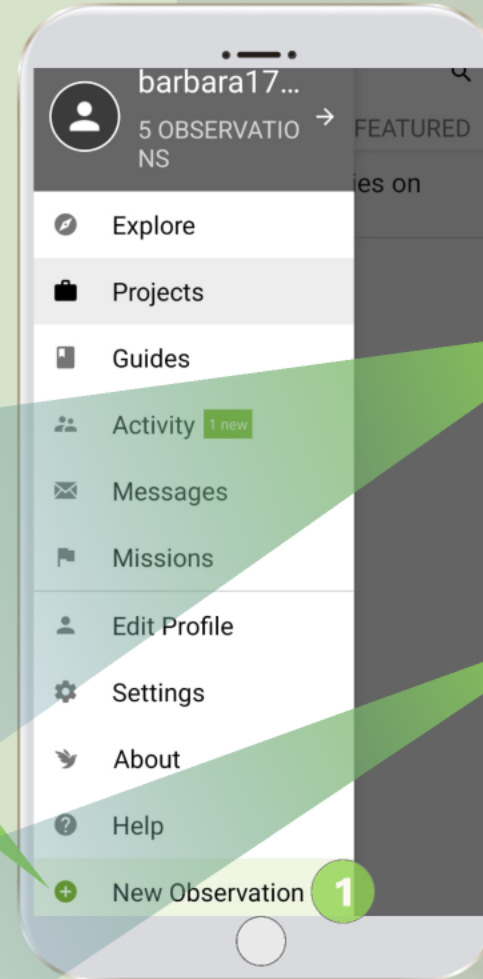
3

Take a photo of the plant (or animal) and add a description. Add one or more photos as evidence.



4

Where you saw it should be added automatically. If this doesn't happen, check app permissions in the Settings app.





# Taking Photos and Identifying Plants

Documenting invasive plant species is essential.

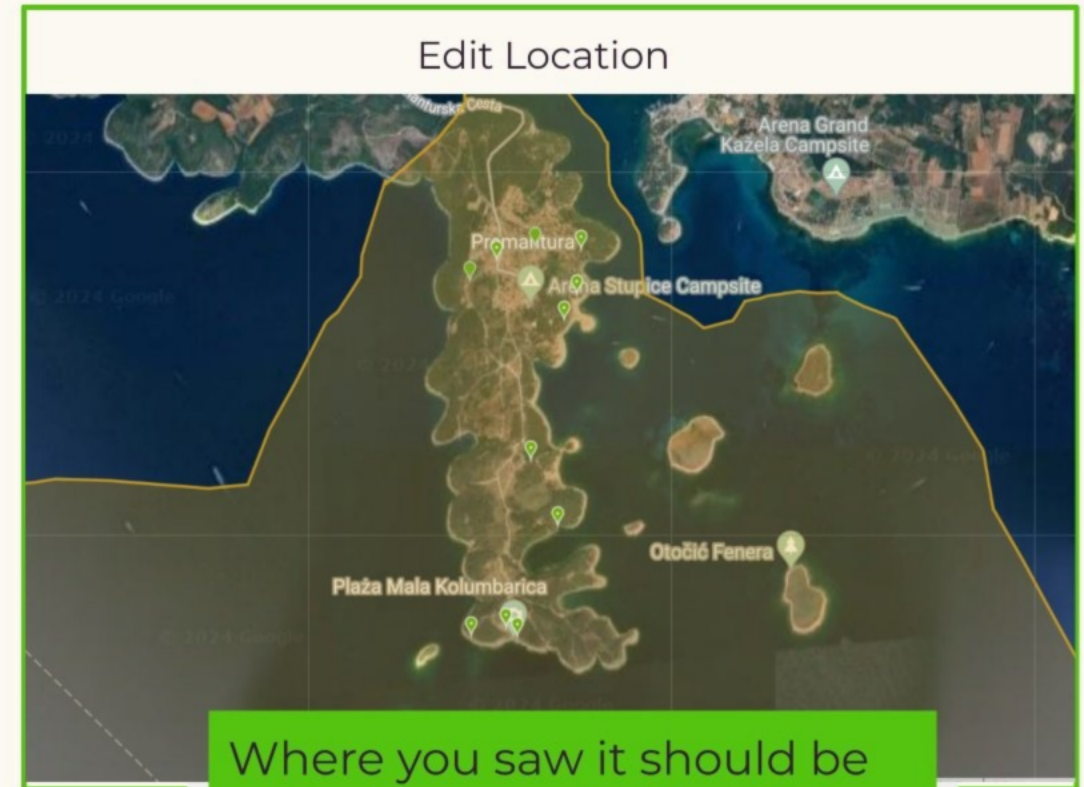
Add one or more photos as evidence.

Use your smartphone to take clear photos along the trails, then identify the species using AI suggestions or your own knowledge for accuracy.



# Geotagging Your Observations

Enter the location of your observation. Ensure geotagging is activated on your device to provide location data for your observations. This feature helps map the distribution of invasive species accurately for effective monitoring and research.



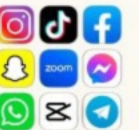
Where you saw it should be added automatically. If this doesn't happen, check app permissions in the Settings app.



# Interacting with the Community

Comment and ask questions about observations made by other users.

Participate in discussions about invasive species and their impacts on the Lower Kamenjak ecosystem.



# Notifications and Education



Follow projects or groups focused on invasive species to receive notifications about new observations and events.

Utilize the resources and guides available within the app for additional information on identifying invasive species.







# Summary and Next Steps

Understanding and addressing the threats posed by invasive species is critical to preserving native ecosystems. Effective monitoring, control strategies, and community involvement are essential in combating these ecological challenges..



# Significance of Identifying Invasive Species

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Identifying invasive species is vital for protecting local biodiversity and ecosystems. Early detection enables timely intervention, preventing further spread and mitigating adverse effects on native flora and fauna.





At two locations  
(west of  
Škokovica cove  
and southwest  
of Portić cove), a  
trial removal of  
tree of heaven  
(*Ailanthus  
altissima*) was  
conducted:





# Strategies for Control and Restoration

Trial removal of tree of heaven (*Ailanthus altissima*) was conducted by treating the 10 largest individuals at both sites with a biodegradable herbicide with a short waiting period (Glyphosate, 30%), while acetic acid (40%) was used as a control herbicide.

Since 2014, there has been a noticeable trend of invasive species spreading in the area, making it crucial to continue removing invasive species wherever possible and to monitor their spatial distribution.

Additionally, it is important to raise awareness among the local population about preventing the spread of invasive species through workshops, social media posts, and similar initiatives.





# Call to Action for Community Engagement

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Community engagement is key to monitoring and managing invasive species. Citizens can participate by reporting sightings, sharing knowledge, and joining projects like iNaturalist, fostering a collective responsibility towards ecological preservation.





## HUMANITA

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