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COURSE N.2: Destination Management

Module N.4: Ecological Impacts and Holistic Environmental Management

Visitor Management and Engagement in Nature-Based Tourism



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UNIVERSITÀ
DEGLI STUDI
DI PADOVA



EIT|FOR
valuing nature



About the Speaker

Geographer working at the UNESCO Chair on Sustainable Management of Conservation Areas at CUAS.

Researcher on visitor activities in PAs and their impacts on the environment.



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<https://www.fh-kaernten.at/en/further-education/unesco-chair>



[Linkedin/@Lilia Schmalzl](#)



Topics of this presentation

- Opportunities and challenges of sustainable tourism in protected areas (PAs)
- Protect findings and outcomes
- Lessons for PA managers



Sustainable tourism in PAs

Safeguard the environmental and/or cultural qualities that attract tourists by maintaining essential ecological processes and aesthetic and spiritual qualities, and by helping to conserve natural heritage and biodiversity;

IUCN Guideline: Tourism and visitor management in protected areas ([Download](#))



Opportunities for PAs

- Providing **outstanding and interpreted experiences** that communicate the many **values of protected areas**.
- Sensitive infrastructure planning
- **Visitor impact mitigation techniques** (e.g. trail maintenance).
- Remediation of damage caused.
- Substantial evidence from many fields points to many **health benefits of nature**.

Challenges for PAs

- PAs as ‘commodity’ or resource to be **exploited by the tourism industry**, interested solely on **profits, access** and providing **new experiences**.
- Negative impacts on the environment:**
 - pollution (e.g. waste disposal, carbon emissions)
 - unsustainable resource use (e.g. water),
 - damage to sensitive areas
- **Health risks due to decreasing risk perception** supported by information technologies.

Daffodil blossom in the Slovenian Karavanks





INTERREG CENTRAL EUROPE PROJECT HUMANITA

Human-nature interactions and impacts of tourist activities on
protected areas

Project Budget 2,396 Mio. €
ERDF funding 1,917 Mio. €
Project duration 04.2023 – 03.2026

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Interreg
CENTRAL EUROPE



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HUMANITA

Distributed within 5 pilot areas

Protected areas

- Geopark Karawanken (AT-SLO) transboundary area
- National Park Malá Fatra (SK)
- Tuscan-Emilian Apennine National Park (IT)
- Bükk National Park (HU)
- Kamenjak Protected Areas - Lower Kamenjak, Medulin Archipelago (HR)



7 languages



6 countries



Jul – Oct 2023

>600 questionnaires

[Link to full report](#)

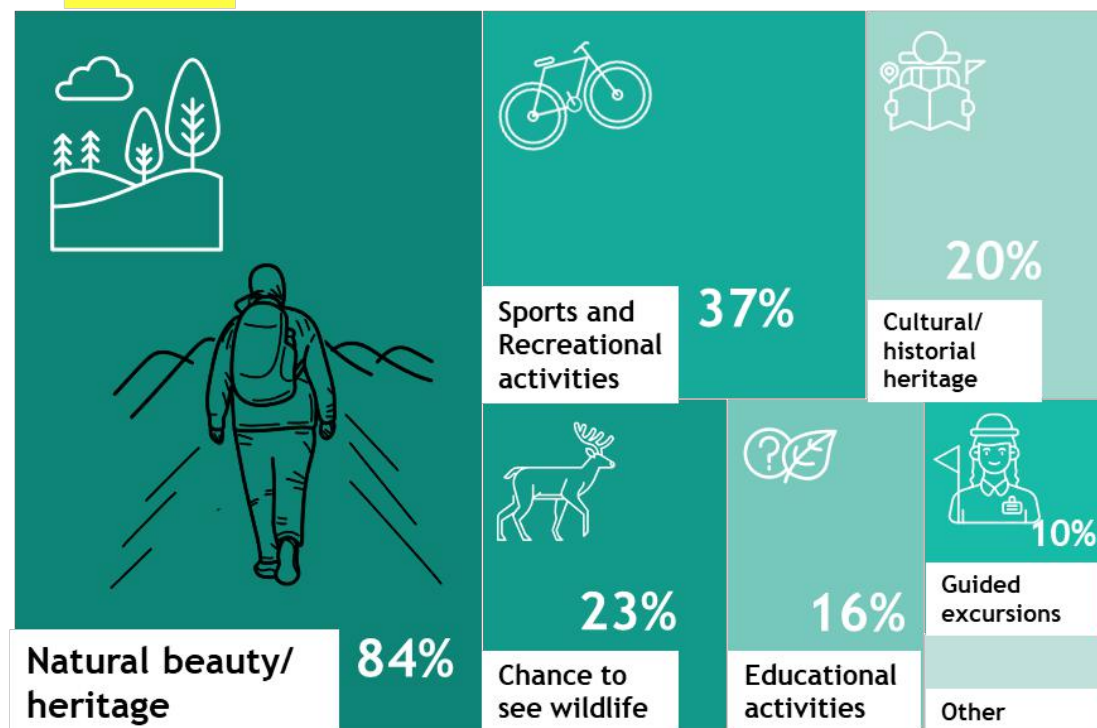
[Link to infographics](#)

Tourist outline

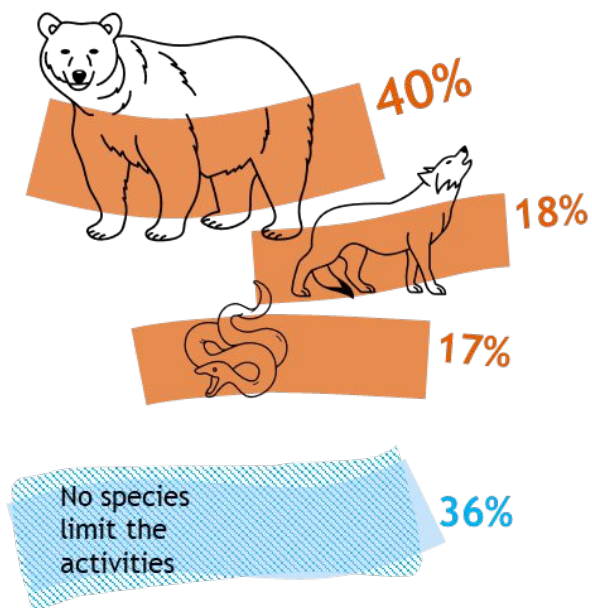


Most

Valued Aspects



Wildlife that discourages visits to the pilot areas



Tourist outline



Interactions with
the **environment**



**AWARENESS ON
INDIVIDUAL
ACTIVITY/EXCURSION
in the protected area**

45%

May have had impacts
such as:

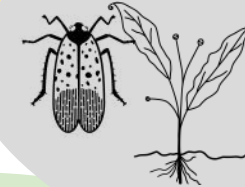
Trampling



Wildlife disturbance



Introduction of
invasive species



Pollution



Garbage



Erosion



55%

Haven't had impacts

Tourist outline

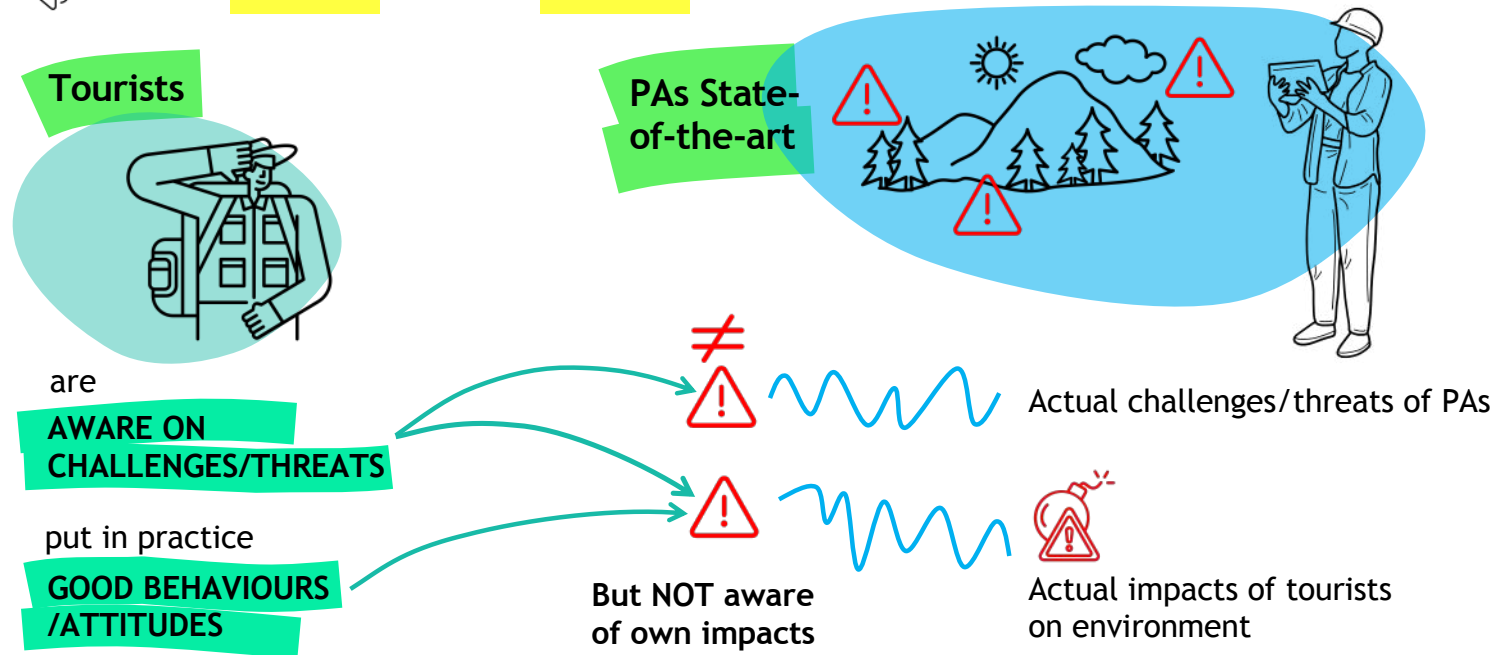


What kind of attention and respectful behaviour do tourists have to protect the environment?



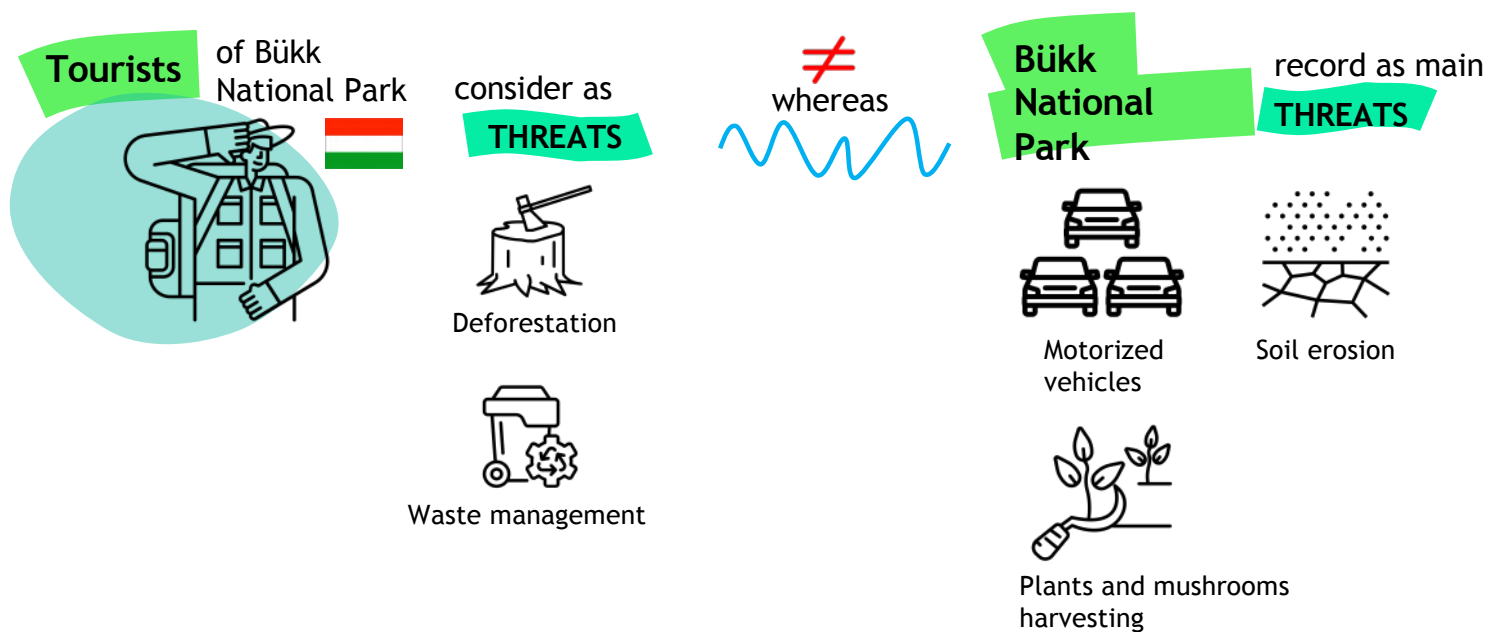
Tourist outline

Which **conflicts** and **contradictions**?



Tourist outline

Which conflicts and contradictions?



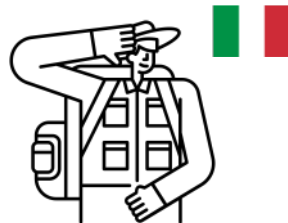
Tourist outline



Which conflicts and contradictions?

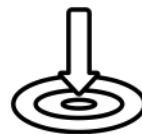
Tourists

of Appennino
Tosco-
Emiliano
National Park



only 22%
consider that
personal
activity/excursion
could have
generated

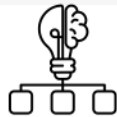
IMPACTS ON THE
NATURAL
ENVIRONMENT



Lack of awareness
on the entire

COMPLEXITY OF
HUMAN-NATURE
INTERACTIONS





Considerations

It is difficult to see one's own behaviour as being a part of the challenges facing the natural environment.



Challenges tend to be recognized as being outside own responsibilities.

How do visitors plan, navigate and share their activities in nature?



Illustrations: Ellena Plettenbacher



MONITORING GUIDELINE (DALTON ET AL. 2024)

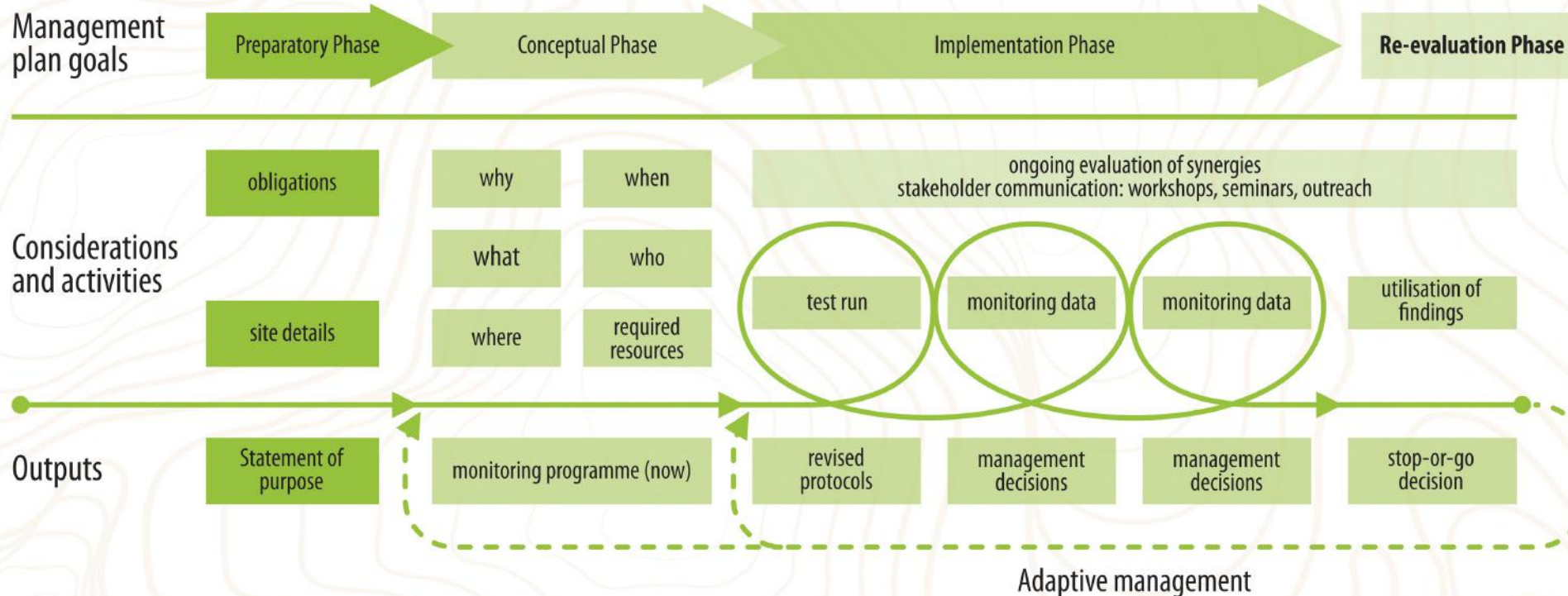
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HUMANITA

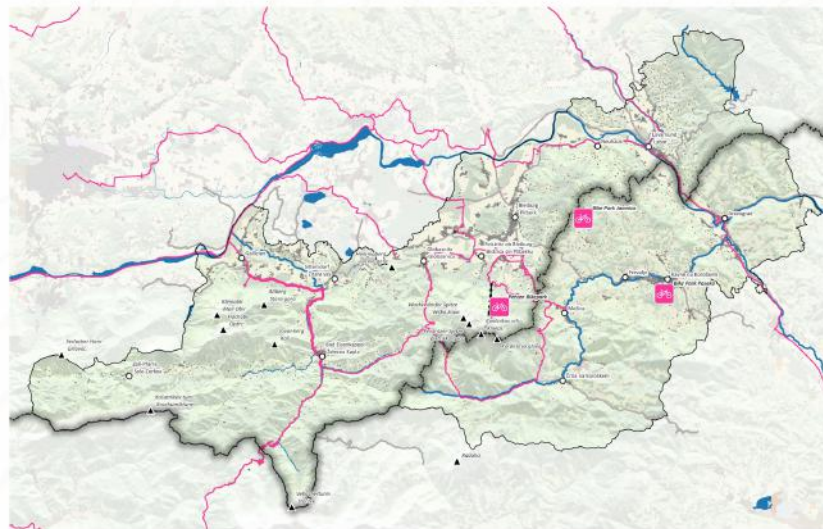
Starting point



IUCN Guideline: A framework for monitoring biodiversity in protected areas and other effective area-based conservation measures ([Download](#)).

Preparatory phase

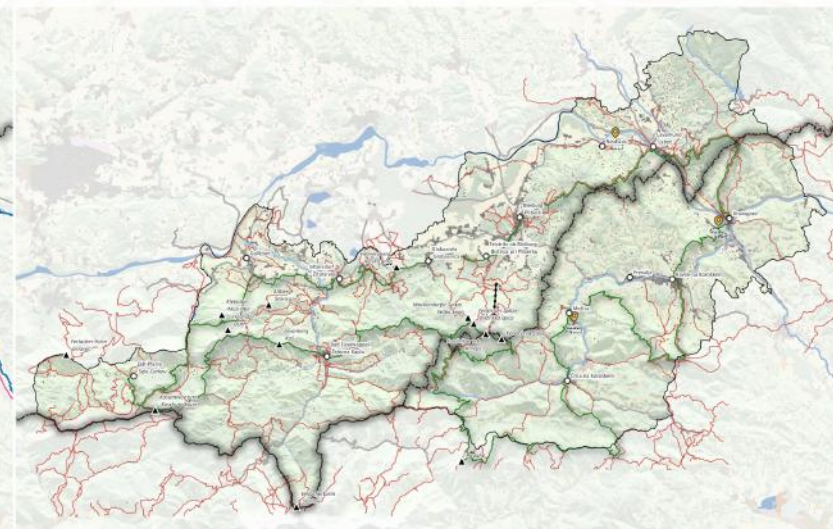
Cycling routes



Mountainbike-Trail-Zentrum | Center gorsko kolesarskih poti
Promovirane Fahrradturen | Promovirane kolesarske ture

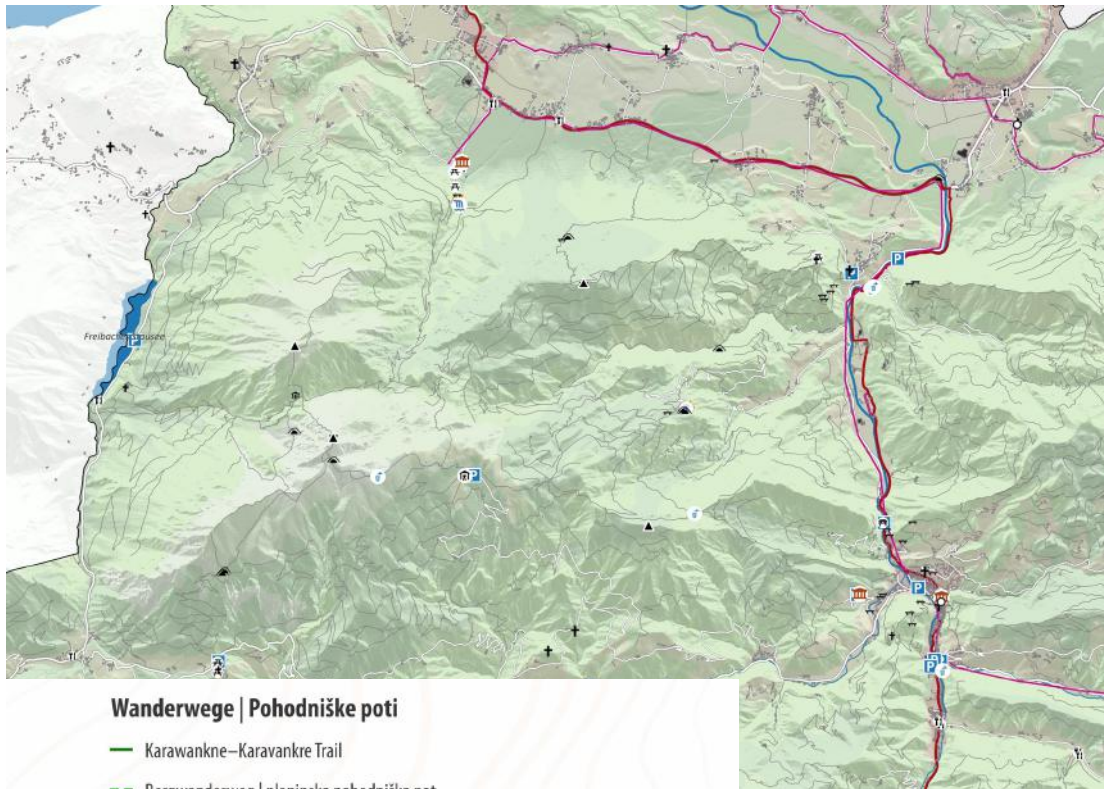
Daten: 2014, 2016, 2018, 2020, 2021, 2022, 2023 | bearbeitet: Lilia Schmalzl

Hiking routes



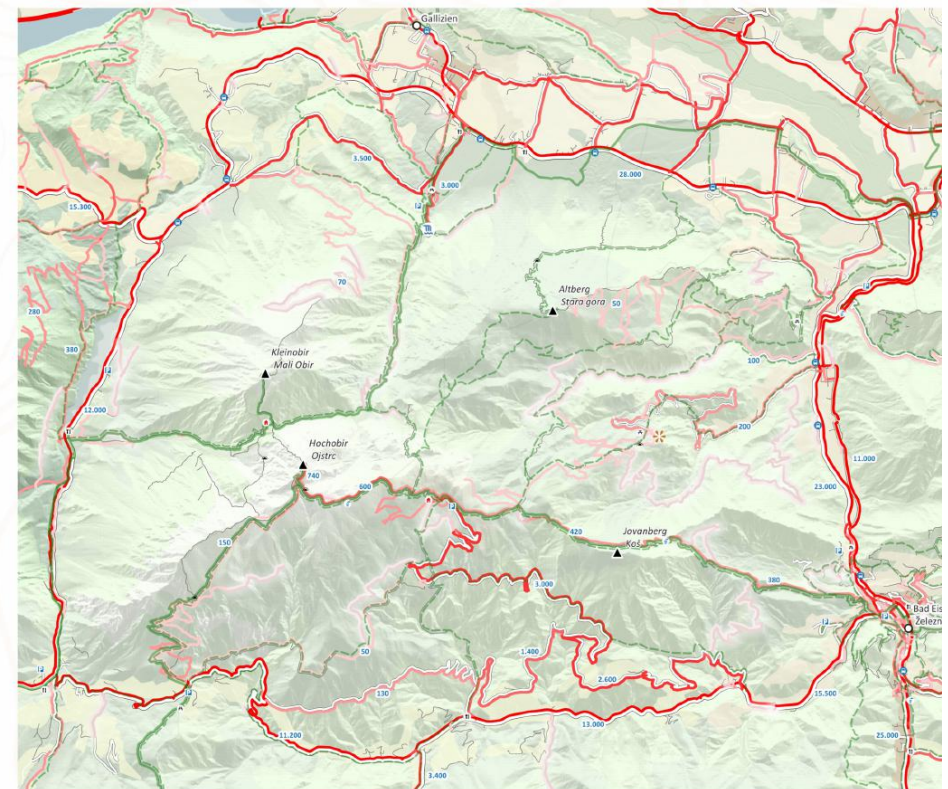
Offizielle Wege | Uradne poti
Karawankne-Karavanke Trail

Daten: 2014, 2016, 2018, 2020, 2021, 2022, 2023 | bearbeitet: Lilia Schmalzl



STRAVA Metro (2019 – 2023 / factor 0,16)

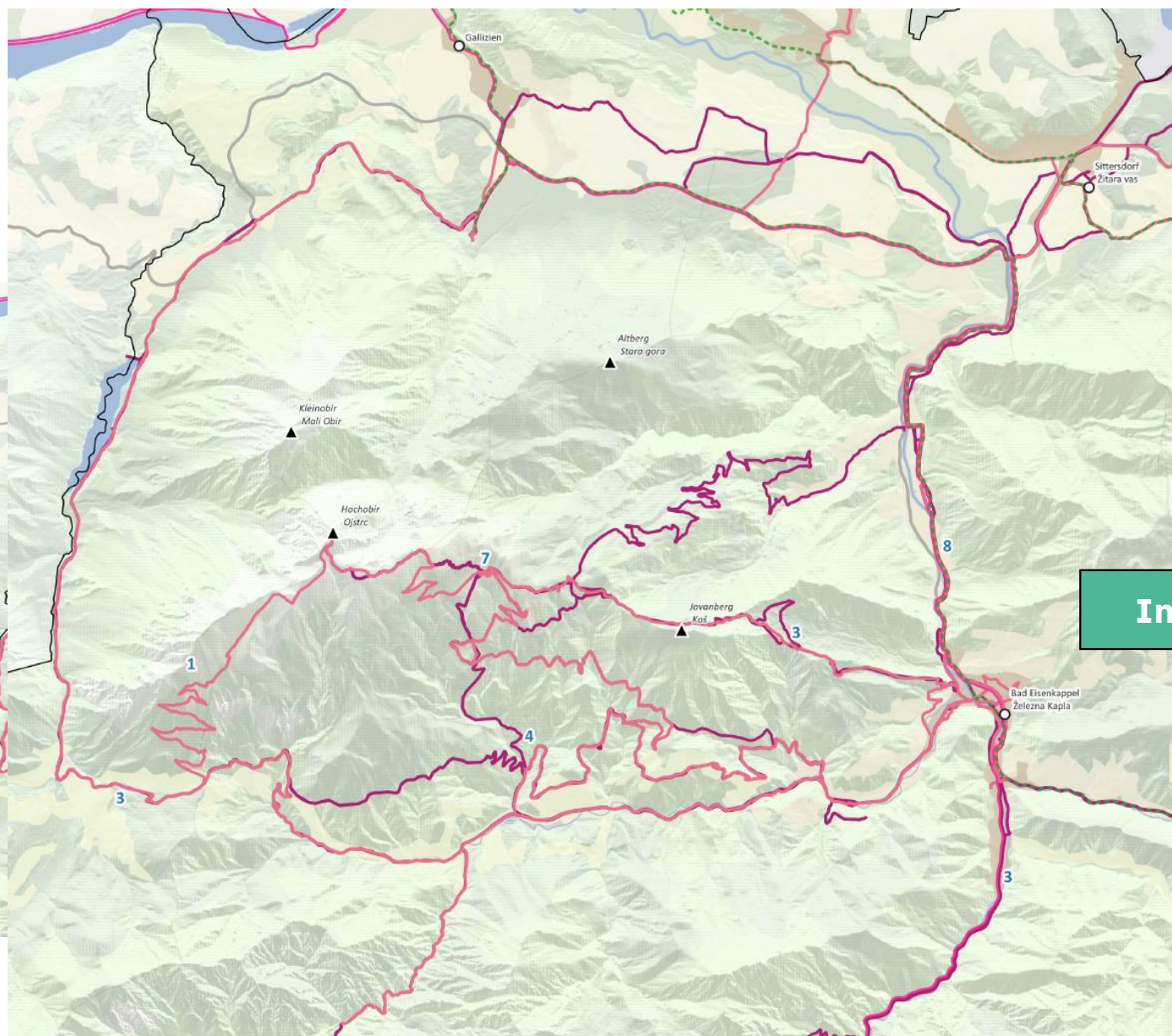
Frequenz Radfahrer | pogostost kolesarji



Official vs. unofficial cycling activities

- User conflicts
- Impacts on flora, Fauna and habitats

Implementation phase



Trails registered in outdoor apps within the Hochobir area

Selected outdoor apps

- Trailforks
- Komoot
- Outdooractive

Official biking areas

- Official biking trails

Implementation phase

Map: Zuzanna Kieliszek
Data Sources: OSM, 2023, CLC, 2018,
Mapzen Global Terrain, GIP, 2023,
Trailforks, 2023, Komoot, 2023,
Outdooractive, 2023

0 1 2 3 km 22

But what does this mean for Conservation Area managers?

Apps provide opportunities for visitor monitoring and management activities.

Data from apps give information about visitor movement in conservation areas.

Editing the data can support visitor guidance and inform visitors about sensitive areas.

To edit data visit: <https://www.openstreetmap.org/>

OpenStreetMap Bearbeiten Chronik Export GPS-Tracks Benutzer-Blogs Gemeinschaften Urheberrecht Hilfe Über

Tags

boundary	national_park
heritage	2
iucn_level	2
name	Triglavski narodni park
name:cs	Triglavský národní park
name:de	Nationalpark Triglav
name:en	Triglav National Park
name:fr	Parc national du Triglav
name:hr	Nacionalni park Triglav
name:it	Parco nazionale del Tricorno
name:sk	Triglavský národný park
name:sl	Triglavski narodni park
protection_title	Narodni Park
type	boundary
website	https://www.tnp.si/
wikidata	Q1163005
wikipedia	sl:Triglavski narodni park

Mitalieder

Komoot

 komoot  Home  Routes  Contribute



 Search for place or address

 **Sport** Hiking ▾

 **Fitness** In good shape ▾

 **Route type** One Way ▾

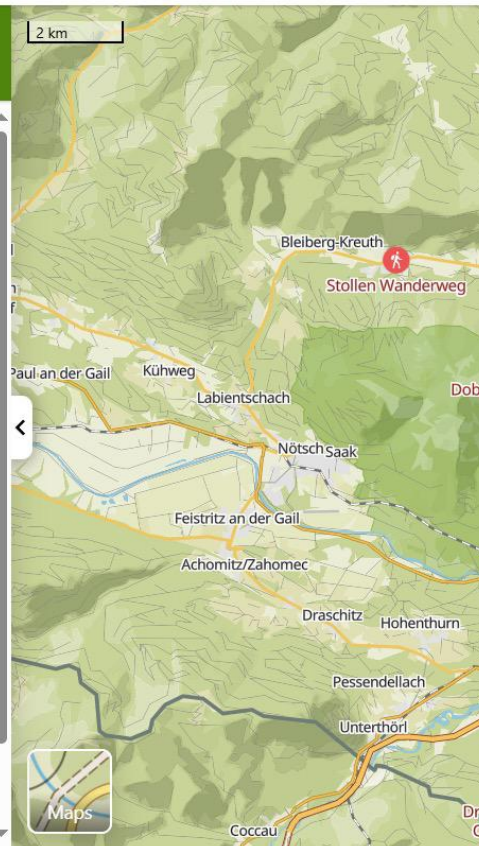
A Enter Starting Point

B Enter Destination



Plan Your Next Adventure!

There are so many unexplored adventures waiting to be



White water

Hiking Highlight



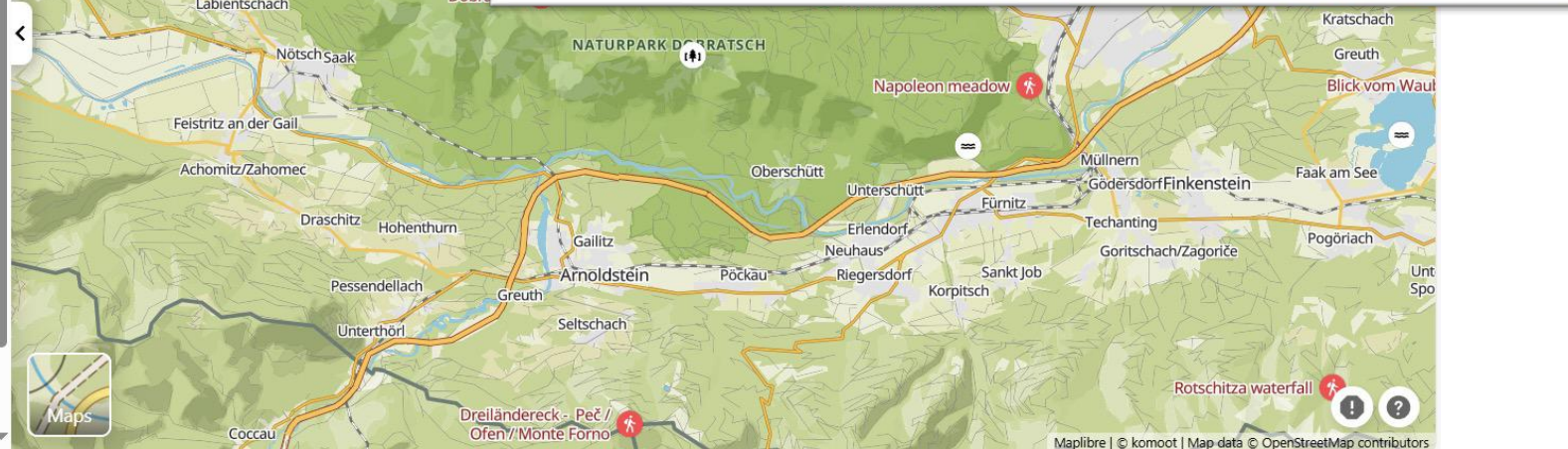
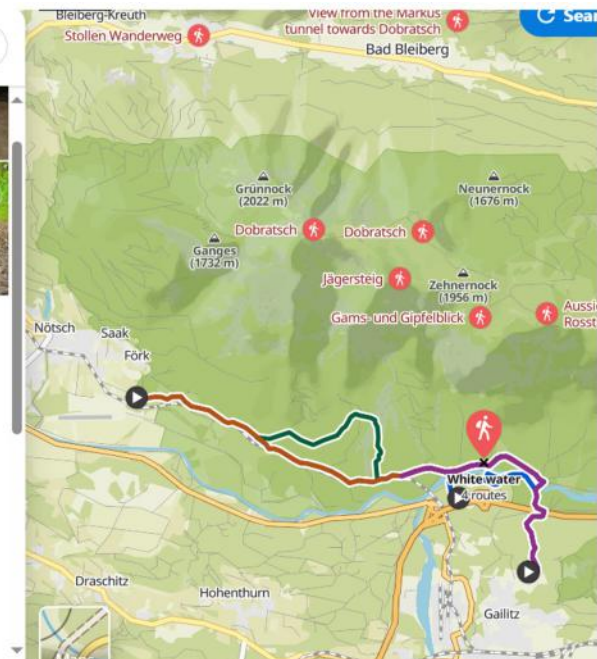
Recommended by 17 out of 19 hikers

 **This Highlight is in a protected area**

Please check local regulations for:

[Naturpark Dobratsch](#)

Tips



Outdooractive

Search this area

Routes Points Accommodation Webcams Eat & drink Crag Mountain huts

Hide content

Die Tour liegt in folgenden Schutzgebieten:

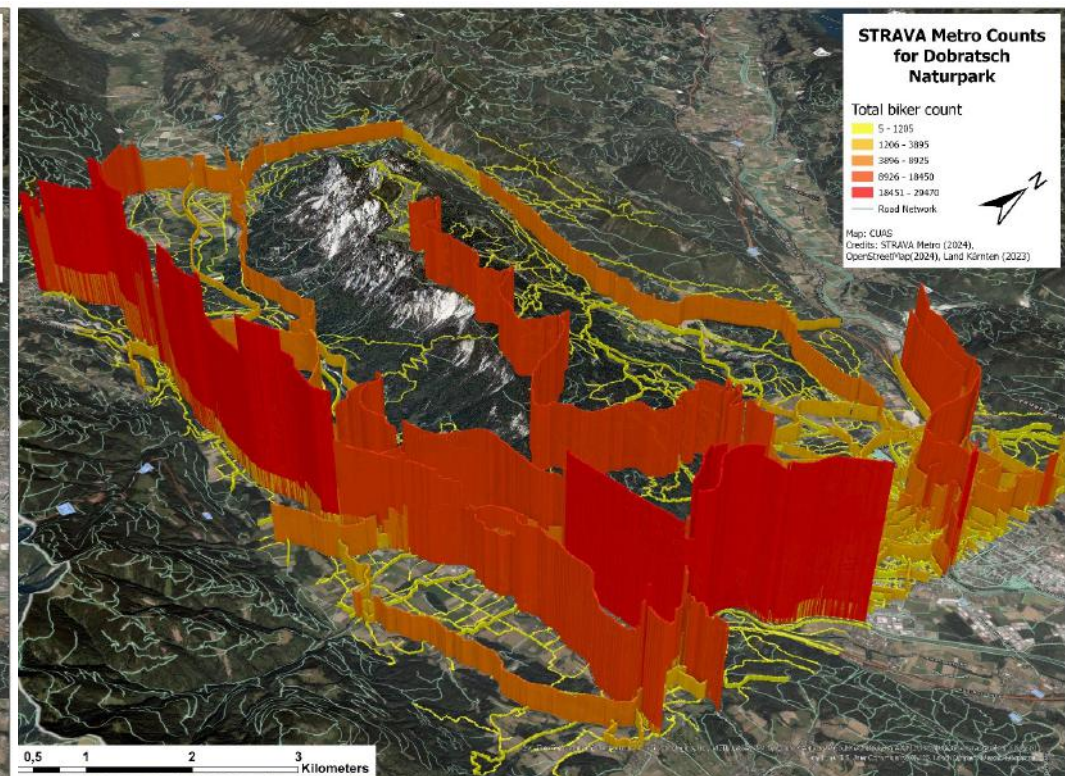
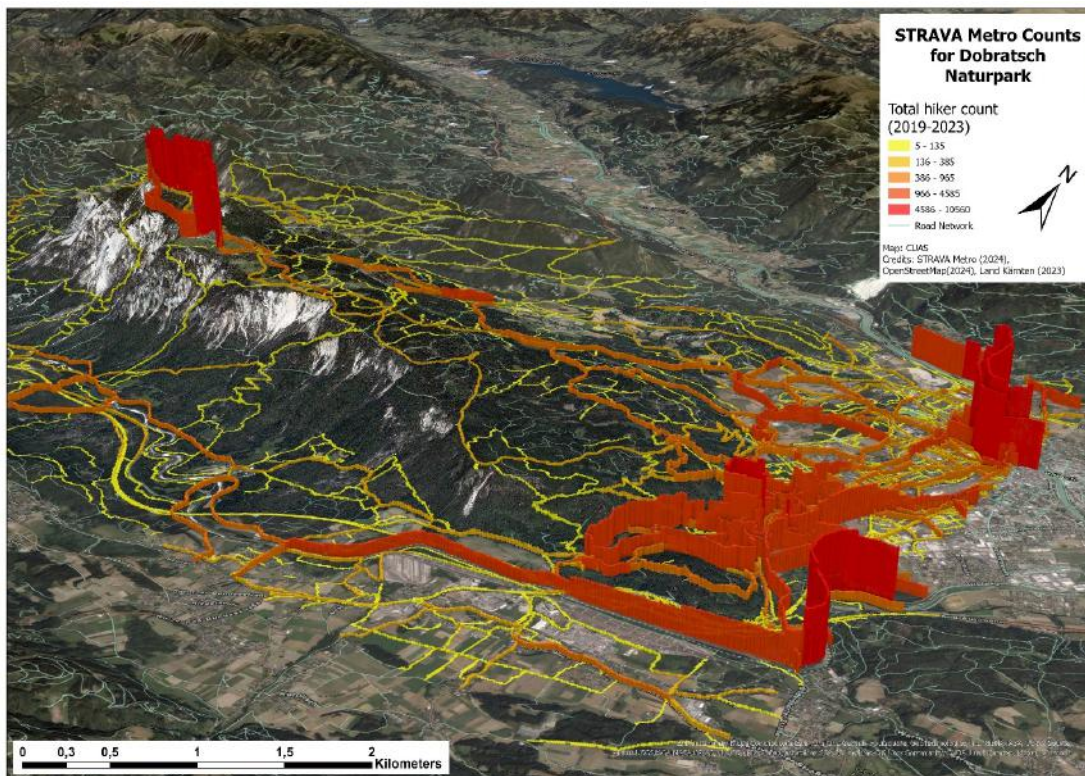
FAUNA-FLORA-HABITAT-GEBIET Villacher Alpe (Dobratsch)

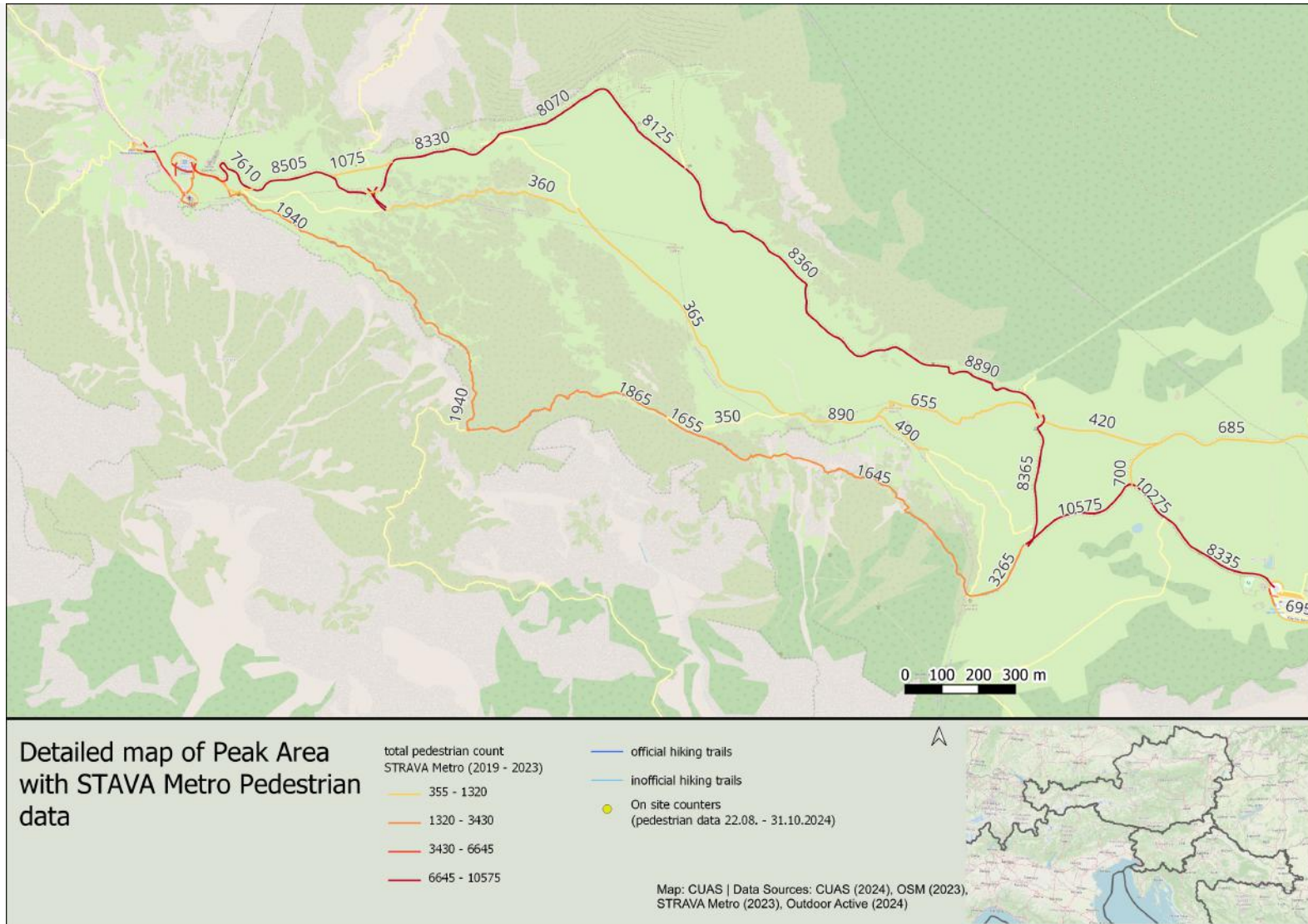
FAUNA-FLORA-HABITAT-GEBIET Schütt - Graschelitzen

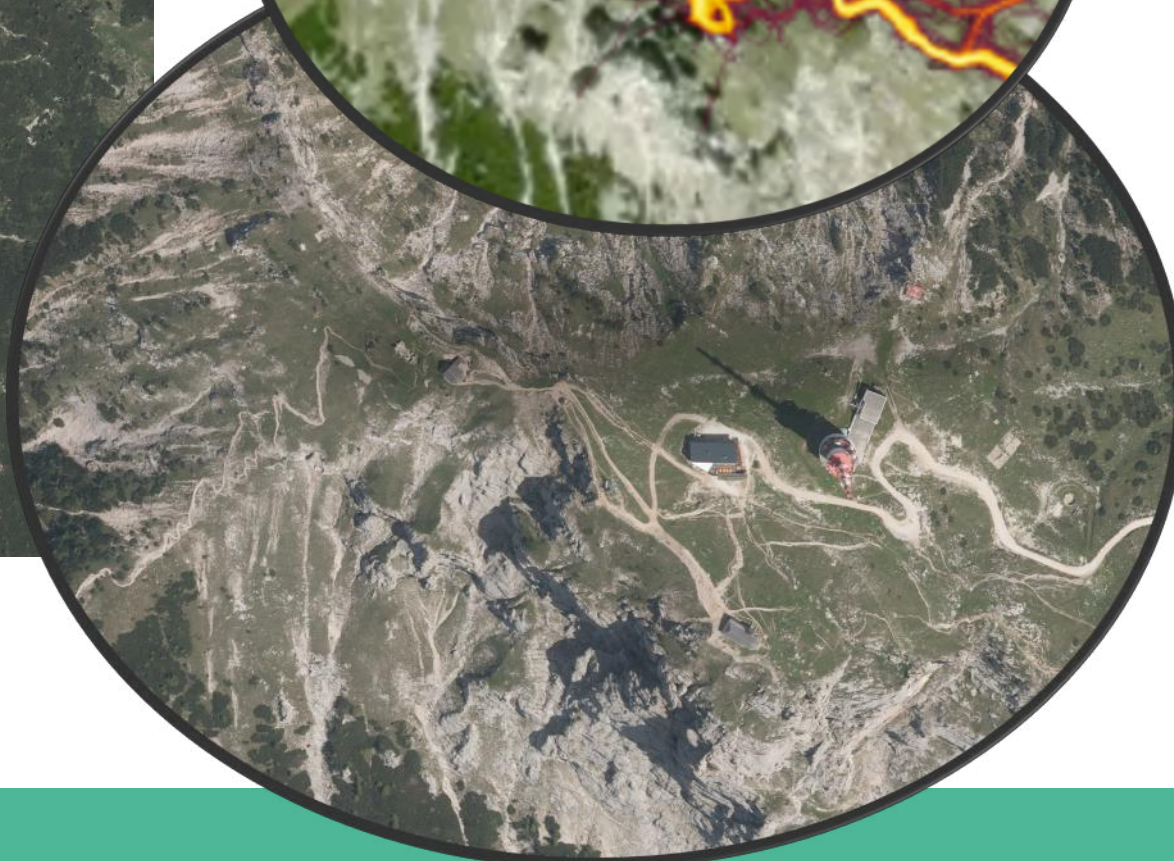
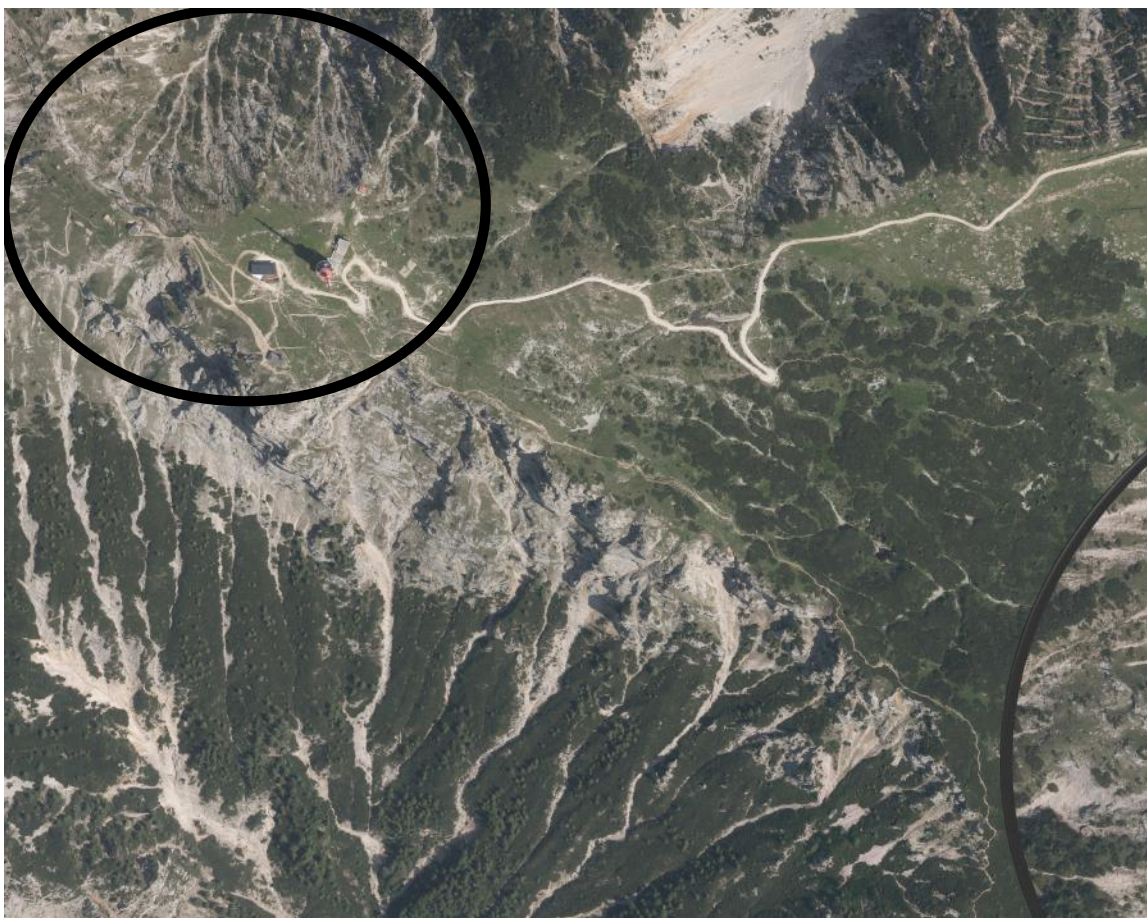


Digitize the Planet – Digital nature protection

Data from STRAVA Metro for active transportation planning for urban planners, trail networks, city governments and safe-infrastructure advocates







Google Maps

ORS-Sender Dobratsch

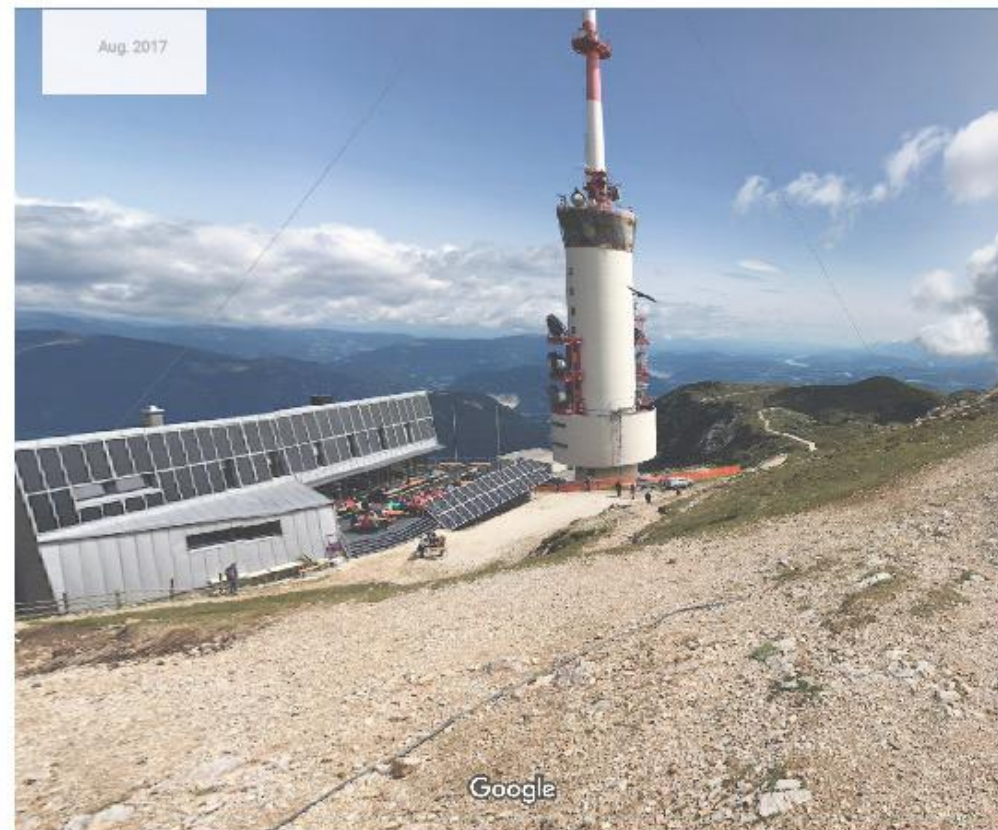


Aufgenommen: Sept. 2018 Die Bilder sind eventuell urheberrechtlich geschützt.



Google Maps

Martin Leiter



Aufgenommen: Aug. 2017 Die Bilder sind eventuell urheberrechtlich geschützt.





Involvement of locals and visitors

Citizen scientists are sometimes tourists who have travelled to a protected area specifically for this purpose, but more often they are local outdoor recreationists who enjoy leisure opportunities in protected areas while at the same time contributing their energy and skills to science.

→ New market to engage visitors into sustainable practice?

Source: Image Source

Map of Observations

Geopark Karawanken-Karavanke

5,328
OBSERVATIONS

1,491
SPECIES

845
IDENTIFIERS

218
OBSERVERS





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University of
Applied Sciences



meath
partnership
engage • enable • participate • progress



NATURE
TOURISM



TUS
Midlands
Midwest



BFW
AUSTRIAN
RESEARCH
CENTRE
FOR FORESTS



Universitatea
Transilvania
din Braşov



INNOVA
4 octroi 4.0



University of
Applied Sciences
Kitzbühel



aRO
accessible
Romania
by Genu Team

Speaker: Name, Surname | Organisation
Production support: Name, Surname | Organisation
Graphic Design: Etifor Communication Team
Recorded on: dd/mm/yyyy

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