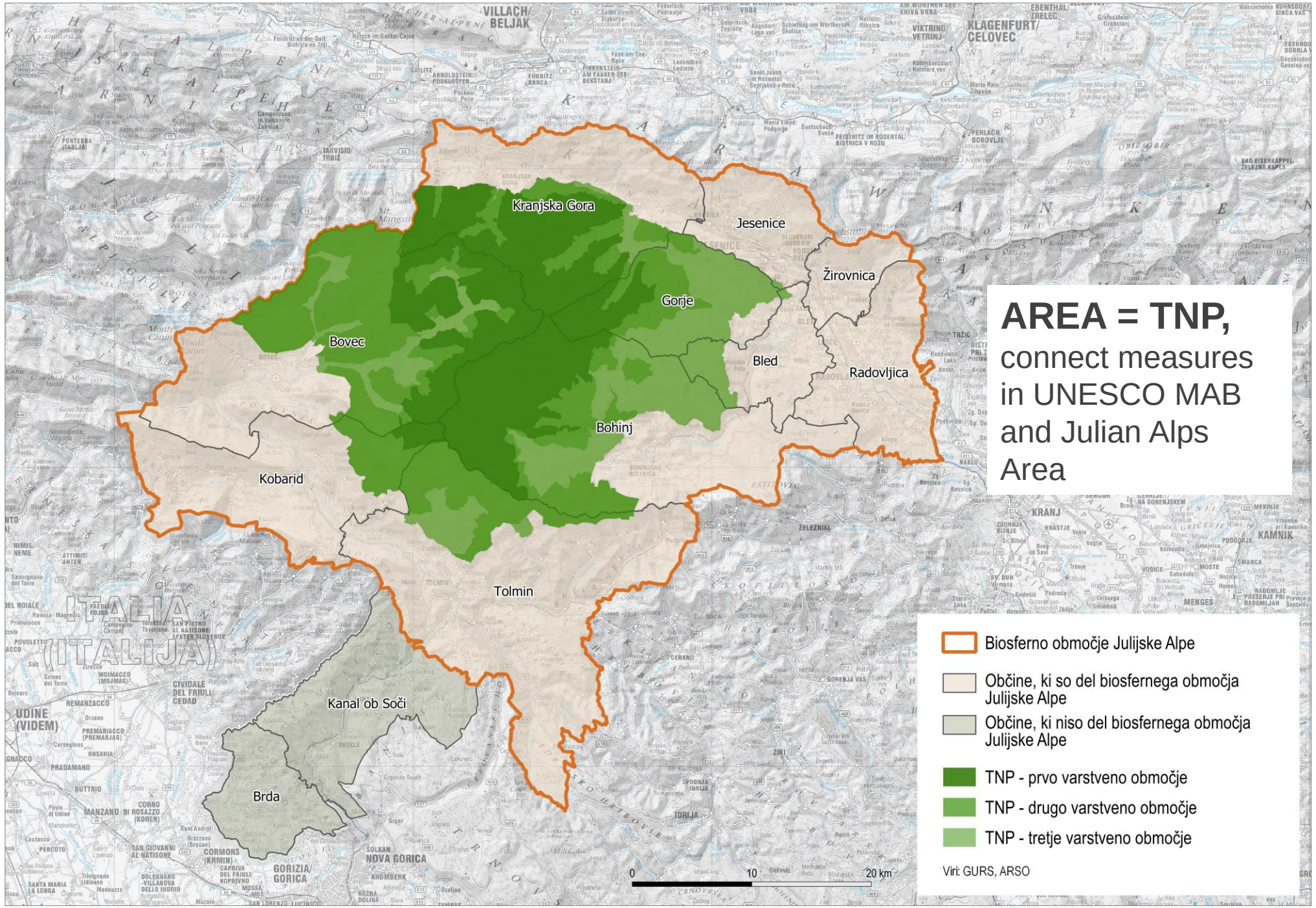
Miha Marolt (Triglav national park),
Urša Fležar (Slovenia Forest Service),
Maruša Prostor (Slovenia Forest Service)

Visitation management for successful return of Eurasian lynx in Triglav national park

Triglav national park, UNESCO MAB, JULIAN ALPS



VISITATION IS INCREASING

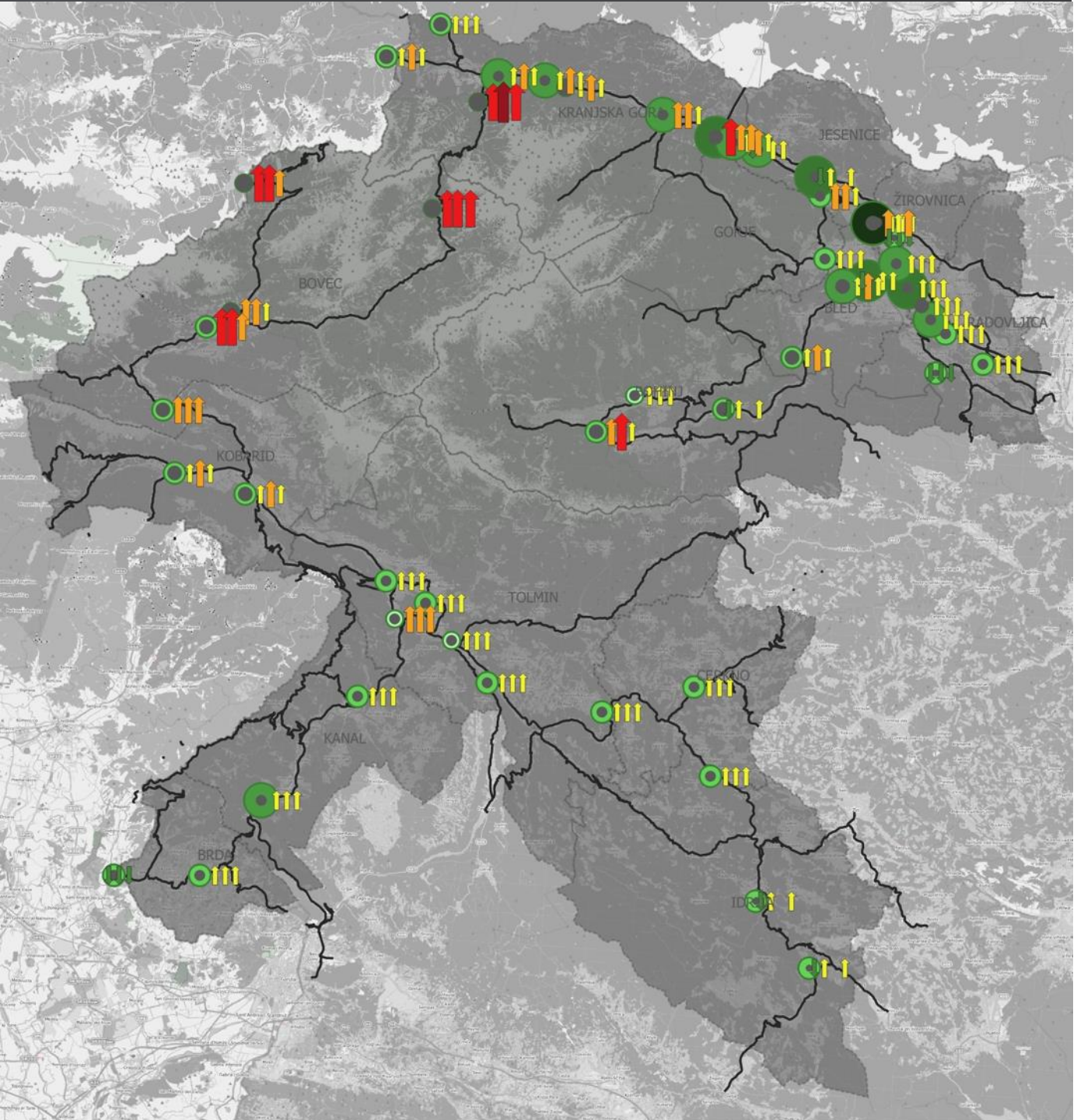
1. DAYILY VISIT IS RISING
2. TRAFFIC IS RISING
3. ACCOMODATION IS GROWING
4. OUTDOOR ACTIVITIES ARE A TREND (HIKING, BIKING, WATER SPORTS, NEW SPORTS)
5. MONITORING OF VISITATION
6. ACCELERATION OF DIGITALIZATION AND SOCIAL MEDIA

TNP AREA= EQUAL = TOO SMAL FOR EVERYBODY

VISITATION IS ENDANGERING VALUES OF THE NATIONAL PARK =>

STRENGTHENING COMBINED ACTIONS TNP + LOCAL COMMUNITIES + STATE

GROWTH RATE OF MOTOR TRAFFIC ON STATE ROADS FROM 2014 TO 2018 MORE THAN 100 %



Stopnja rasti motornega prometa na državnih cestah med leti 2014 in 2018

Od leve proti desni, rast prometa med 2014 in 2018:
povpr. letnega dnevnega prometa,
povpr. poletnega dnevnega prometa
in povpr. izvensezonskega prometa

- < 0 %
- 0-25 %
- 25-50 %
- 50-100 %
- >100 %

PDLP v letu 2018

- <1.500
- 1.500-5.000
- 5.000-10.000
- 10.000-20.000
- >20.000

Indeks razmerja sezonskega in izvensezonskega prometa

- <100
- 100-150
- 150-300
- 300-600

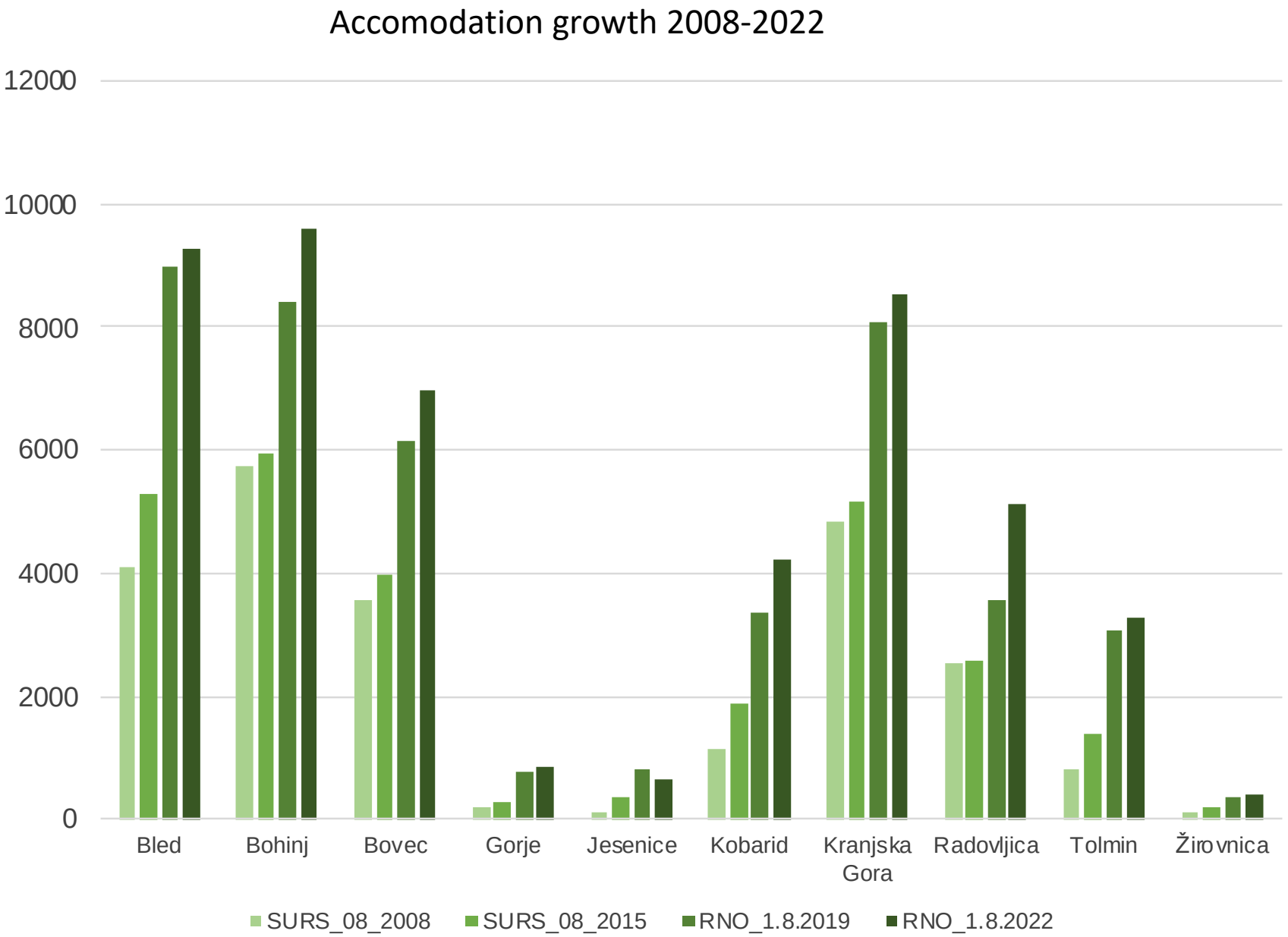
Državne ceste

Občine v Julijskih Alpah

Opomba: za AŠM Slap ob Idrijci, Bled in Stopnik podatkov za 2014 ni, zato so obdelani podatki za 2015. Za AŠM Nomenj pa za leto 2017.

pnz

Vir: CPS Julijske Alpe, PRC, karte PNZ, 2022

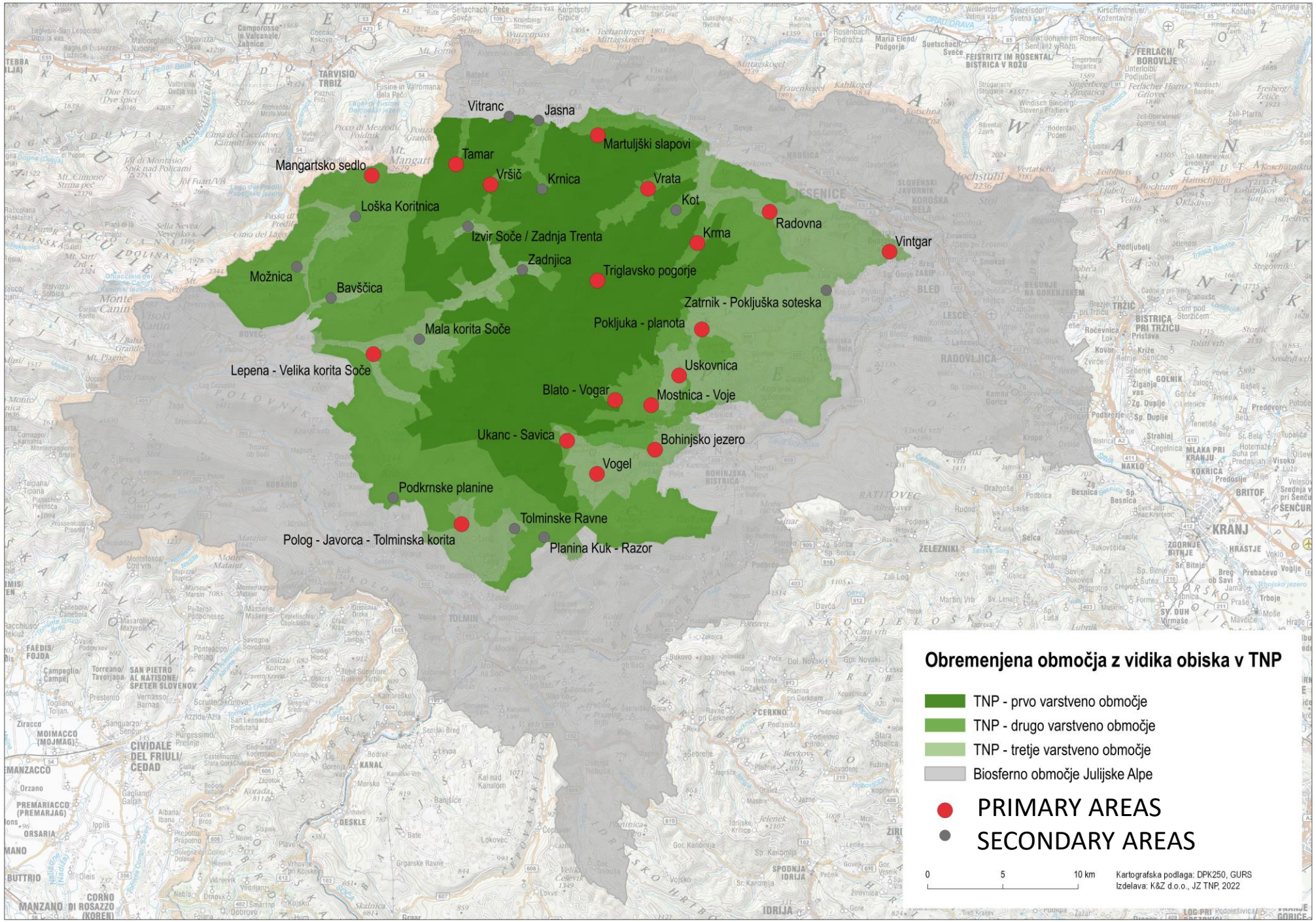


ACCOMODATION HAS DOUBLED=> STATIONARY GUEST NUMBERS HAVE DOUBLED
in area under TNP influence

2008: 23.142
2022: 48.876

Vir: SURS 2008, 2015, RNO 2018 in 2020

VISITATION AREAS WITH NEGATIVE VISITATION IMAPACT IN TNP



NEGATIVE IMPACTS ON NATURE

EFFECTS ON WATER - rivers, lakes, fresh water, springs, …

- Decline in high mountain lakes condition due to fish introduction near alpine huts
- Presence of bacteria in water springs samples
- Increased use of fresh water (mountains and valleys)
- Increased problems with wastewater treatment (mountian huts, dispersed settlements, campsites, overload of central water treatment plants, …)
- Degradation of water and near water areas due to recreational use – canyoning, kayaking, sightseeing – erosion, non-marked paths, …)

EFFECT ON SPECIES, HABITATS, NATURAL VALUABLES

- Increased stress of wildlife due to enormous, dispersed and timewise non-appropriate visitation of the park (example – chamois, capercaillie; population decline in the whole Alps)
- Decrease of the most important habitats because of the visitation effects
- Potential danger of introducing non-native species
- Increased impact on quiet zones due to climate change (peatbogs)
- Increased impact on quiet zones due to development of recreational activities (ski mountaineering, illegal drone use)
- Increased number of panoramic flights over the park (wildlife)
- Increased noise and degradation of the areas because of the traffic
- Degradation of the park most visited natural areas




NEGATIVE IMPACTS ON PARK EXPERIENCE FOR VISITORS

TRAFFIC

- hot spots in the park, where individual motor traffic is too dense for the infrastructure - dissatisfaction from visitors, local people, real estate owners, local police, police, rangers, traffic jams, parking in natural environment
- bad condition of the individual traffic is also setting back public transport, passengers are dissatisfied, delays, disinformation
- insufficient regional public transport in unable to connect to state public transport

EXTREME PRESSURE OF THE VISITORS ON THE VALUABLE PARTS OF THE PARK

- extreme pressure on the tourist most attractive natural valuables, inadequate management system, degradation through extreme management for the safety reasons, waste, erosion...
- extreme pressure in some parts of the high mountains
- extreme pressure on the rivers (water sports)
- heavy air traffic (effect on peaceful experience)
- pressure from daily visitors and guest with no reservation (illegal camping, illegal parking, dissatisfaction from visitors, local people, real estate owners, local police, police, rangers…)

MANAGING THE NATIONAL PARK




STRATEGIC GOAL

Visitation and recreation management in TNP for:

- ✓ **conserving natural valuables and biodiversity,**
- ✓ **enabling visitors** to experience the park in full quality
- ✓ **providing local inhabitants with quality living, develepoment possibilities and sustainable developement.**

ACTION PLAN FOR VISITATION AND RECREATION MANAGEMENT IN TRIGLAV NATIONAL PARK

NU TNP

CPS JA

RNTT JA

10./11. čl. ZTNP-1

1 VISITATION MONITORING → **Strategy:** from pilot projects towards automated monitoring

Goal: Understanding trends of all varieties of visitation and recreation on all key effected areas in all seasons as basis for further decision-making on visitation, recreation and traffic management and for park management

2 DECREASE MOTOR TRAFFIC IN TNP

Goal 2.1: Establishing traffic regimes and financially sustainable mobility solution on affected areas
Goal 2.2: Establishing a single common public transportation in Julian Alps

→ **Strategy:** ← focus are most affected areas, elsewhere prevention measures

3 VISITATION MANAGEMENT ON NATURAL VALUABLES

Goal 3.1: Limit, decrease, balance and sustainably manage natural valuables, where eperiencing nature is reduced and nature is degraded
Goal 3.2. Establishing single common and formally accepted management of natural valuables within TNP where there is special infrastructure (entrance fee)

4 VISITATION M. ON TRAILS AND IN ALPINE HUTS

Goal 4.1: Reduce the effect of hiking in quiet zones and core area **Goal 4.2:** Better management of peaks of hiking Goal **4.3:** Reducing the alpine huts impacts (minimal environmental footprint)

Strategy: directing out of the quiet zones on to the marked paths

5 VISITATION MANAGENT ON WATER BODIES

Goal 5.1: Better handling of water sport and swimming impacts on water bodeis

Strategy: implementing current directives from management plan in practice

6 MOUNTAIN BIKING MANAGEMENT

Goal 6.1: Directing bikers on approved trails
Goal 6.2: Monitoring and sanctions violations

Strategy: directing bikers on approved trails

7 PARAGLIDING AND AEROSPORTS MANAGEMENT

Goal 7.1: Reducing air traffic and noise levels over sensitive areas and in sensitive periods

Strategy: implementing monitoring and improving regulation of small motor aircrafts

8 WINTER ACTIVITIES MANAGEMENT

Goal 8.1: Managing fast winter recreation growth in nature

Strategy: preventive actions

9 MANAGEMENT OF GATHERING (FUNGI…)

Goal 9.1: Remove gathering from quiet zones
Goal 9.2 Direct gathering into 3rd zone
Goal 9.3: Manage gathering of fungi

Strategy: establishment of missing system instruments and bases

10 DEVELOPMENT OF MANAGEMENT TOOLS (digitalization, communication, new services)

Goal 10.1: Offering visitors of TNP useful, available, friendly and personalized digital support of visiting and experiencing of the park
Goal 10.2 Providing an efficient real-time information system for support of the monitoring, decision making and directioning of visitation

Strategy: development and integration of digital tools for support of monitoring, directing, informing and managing visitation; upgrading communication from informing towards harmonized directioning and empowering visitors for responsible visit

LYNX REINTRODUCTION

TRIS, first lynx in TNP,
named from **T**riglav and
Slovenian word for lynx **RIS**

MAIN GOAL: Saving the Dinaric-SE Alpine lynx population from extinction

- EU-funded LIFE+ project
- Duration 2017 - 2024
- Broad partnership: 11 institutions from 5 countries
- Strong involvement of hunters

https://www.lifelynx.eu/o-projektu/?lang=sl

LIFE Lynx

Reševanje risa v Dinaridih in jugovzhodnih Alpah pred izumrtjem

LIFE16 NAT/SI/000634

Zavod za gozdove Slovenije

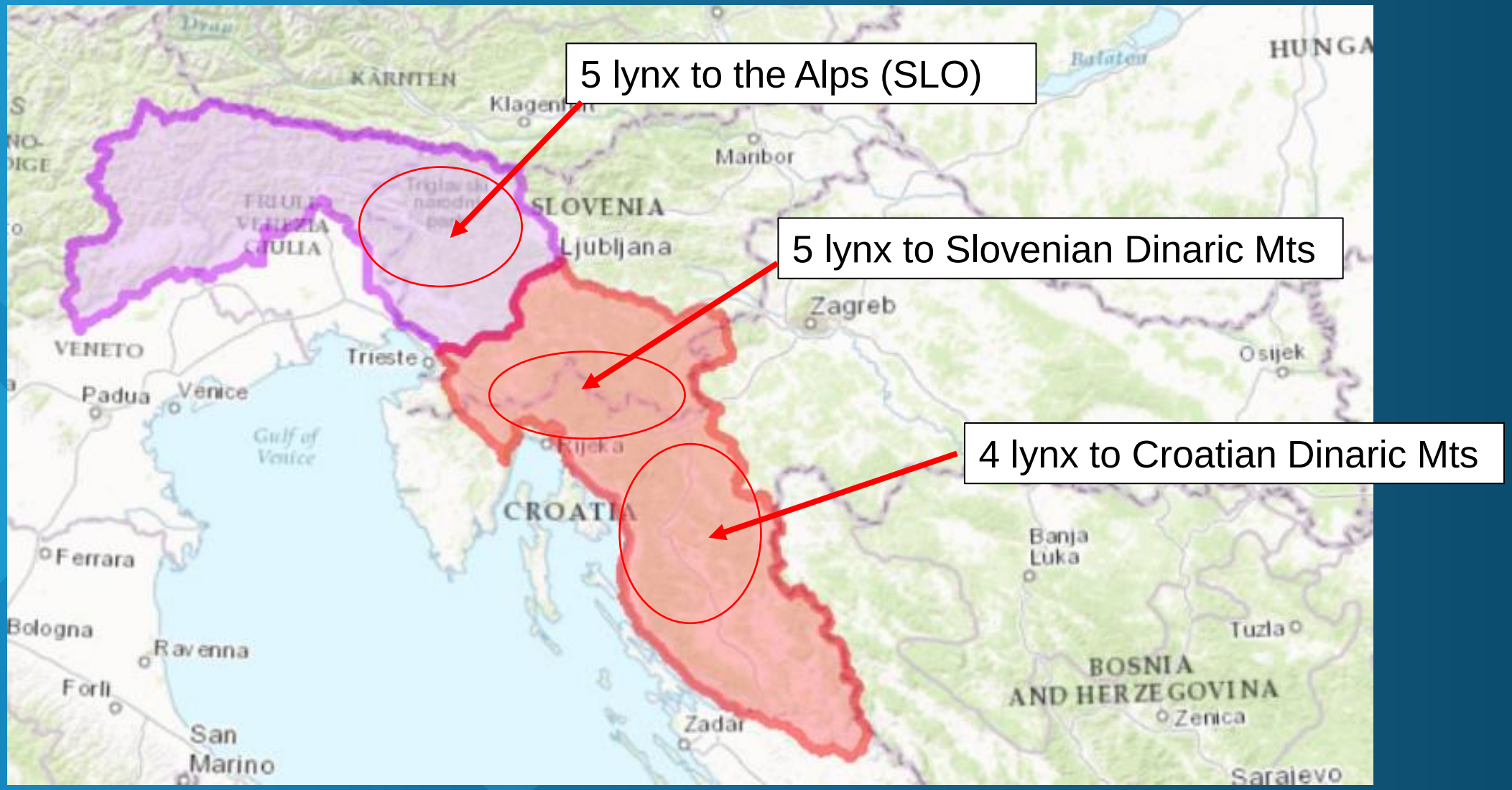
Lovska zveza Slovenije

Univerza v Ljubljani Biotehniška fakulteta

Zavod Republike Slovenije za varstvo narave

Triglavski narodni park 40 years

LYNX TRANSLOCATIONS

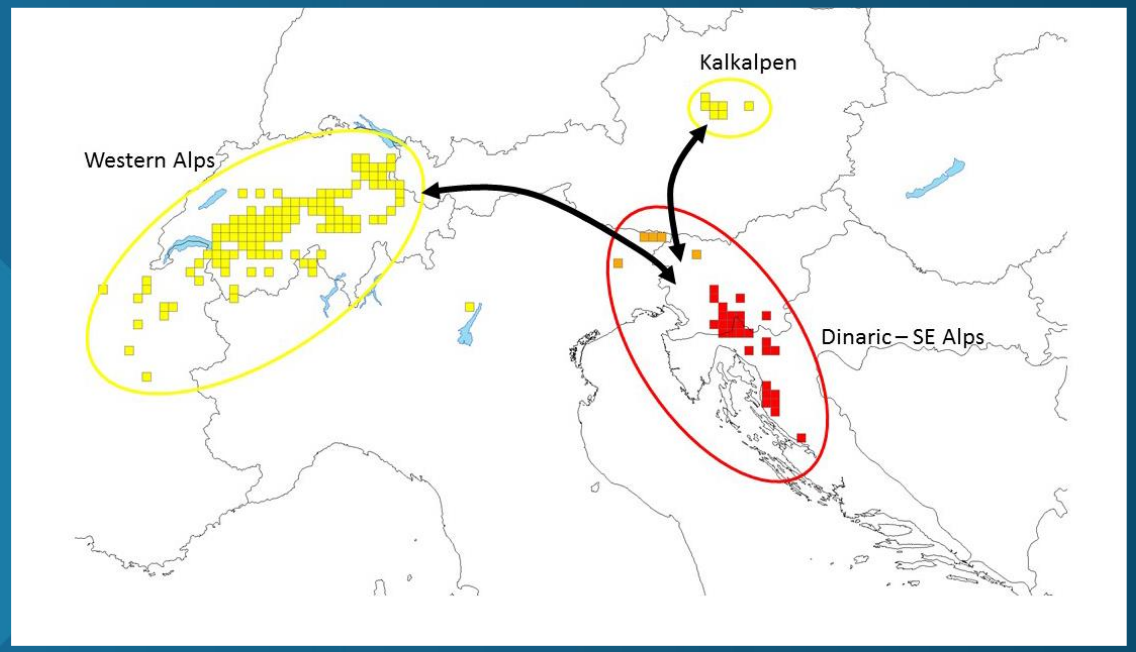


LYNX TRANSLOCATIONS TO THE ALPS

Population in Dinaric Mts is isolated from neighboring populations (Italy, Switzerland, Austria?) and severly inbred

Creating a population stepping stone in Slovenian Alps

- ✓ Improved connectivity between Dinaric Mts and Julian Alps
- ✓ Long-term maintenance of the viability of Dinaric SE-Alpine population by connecting Alpine lynx populations



https://www.lifelynx.eu/c-4-vzpostavitev-povezovalne-populacije-v-jv-alpah/?lang=sl

LYNX TRANSLOCATIONS TO THE ALPS

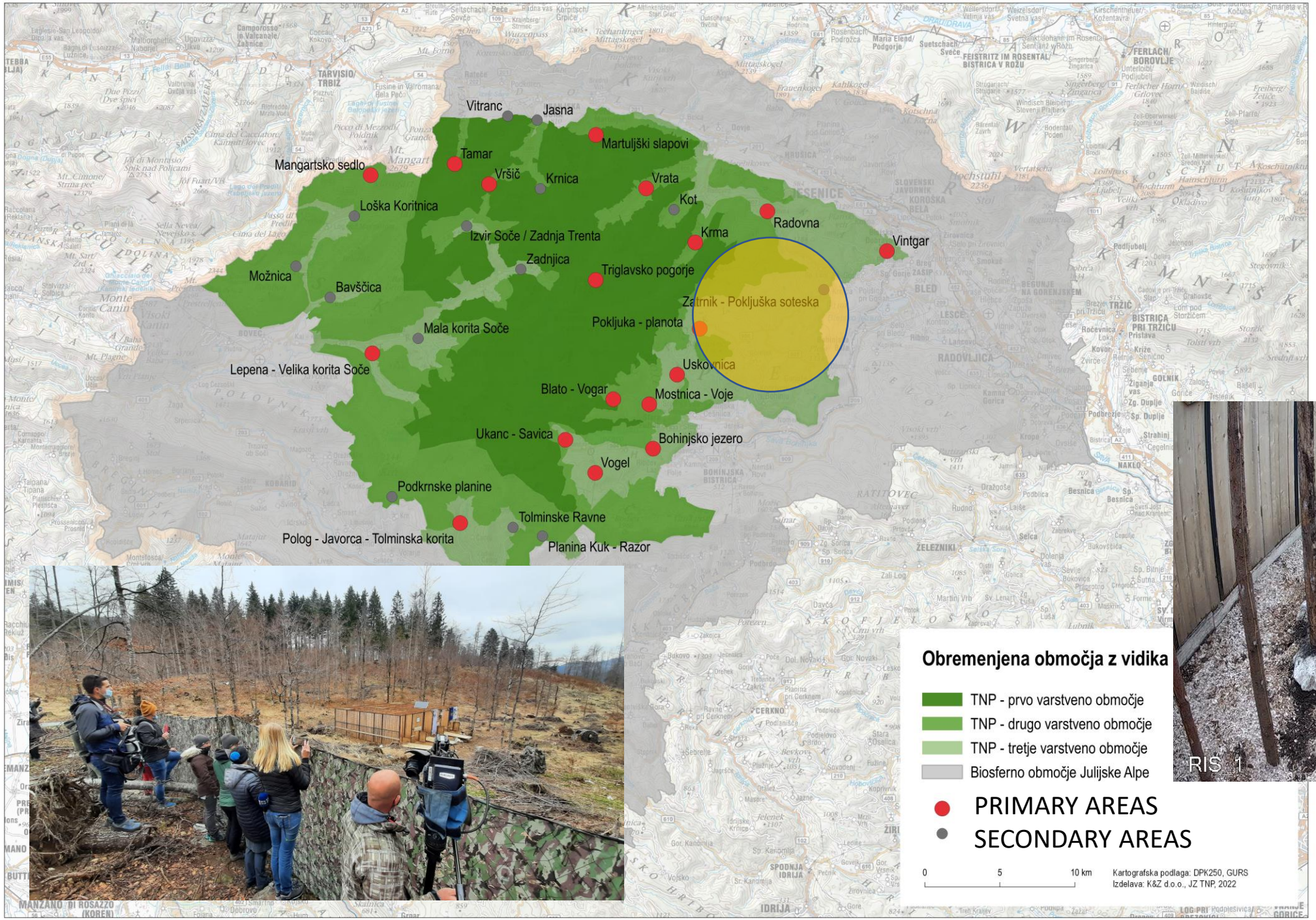
<u>17.4.2021:</u>
One male and one female translocated to Jelovica plateau

<u>11.3.2021:</u>
One male and two female lynx translocated to **Triglav National Park**

https://www.youtube.com/watch?v=peFjcLVFNvg

RELEASE SITE AND MEASURES FOR SUCCESS

- communication with all stakeholders,
- involvement,
- surveillance

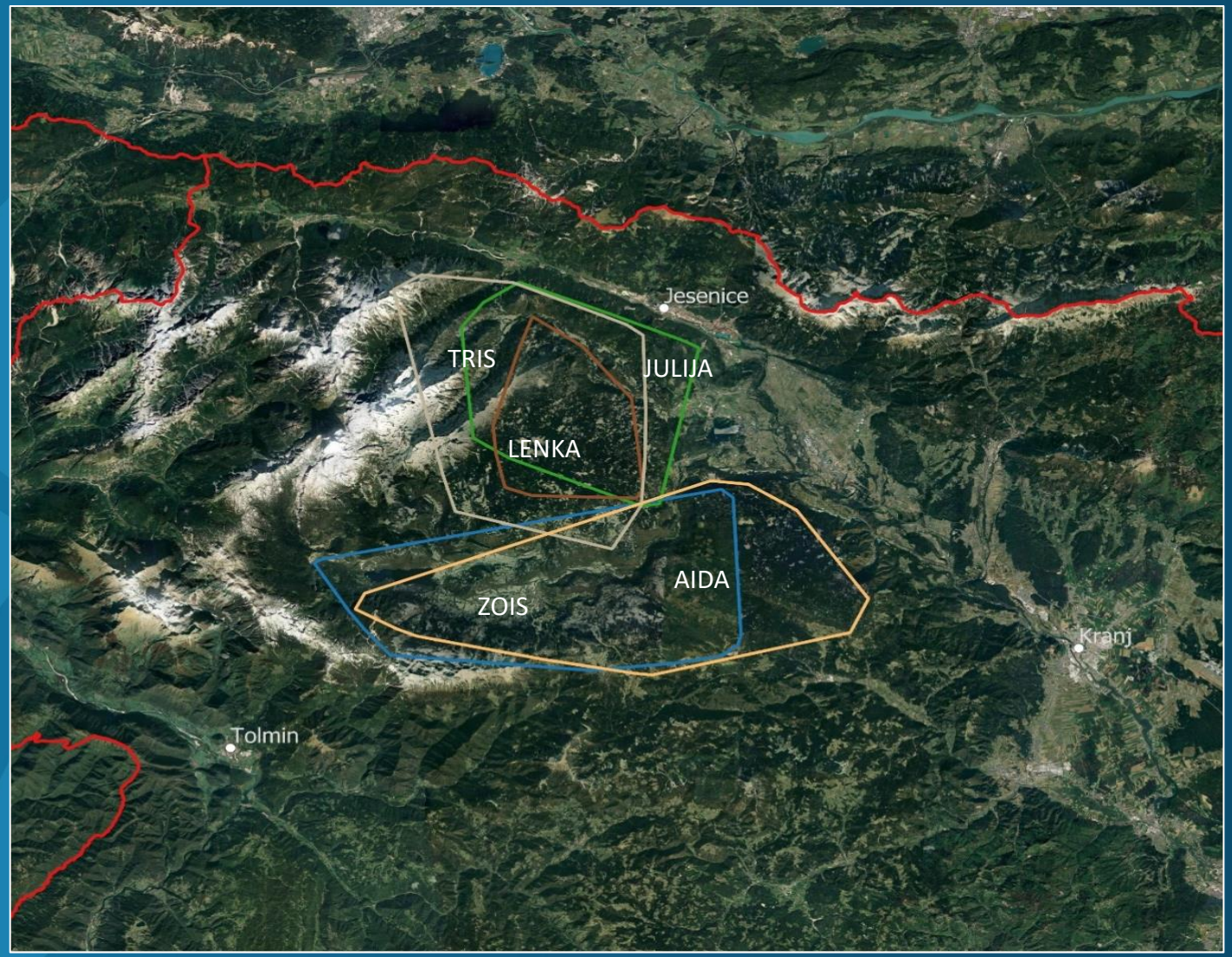


LYNX TRANSLOCATIONS TO THE ALPS

ALL RELEASED LYNX ESTABLISHED THEIR TERRITORIES IN THE ALPS

Data about their movement and space use collected via:

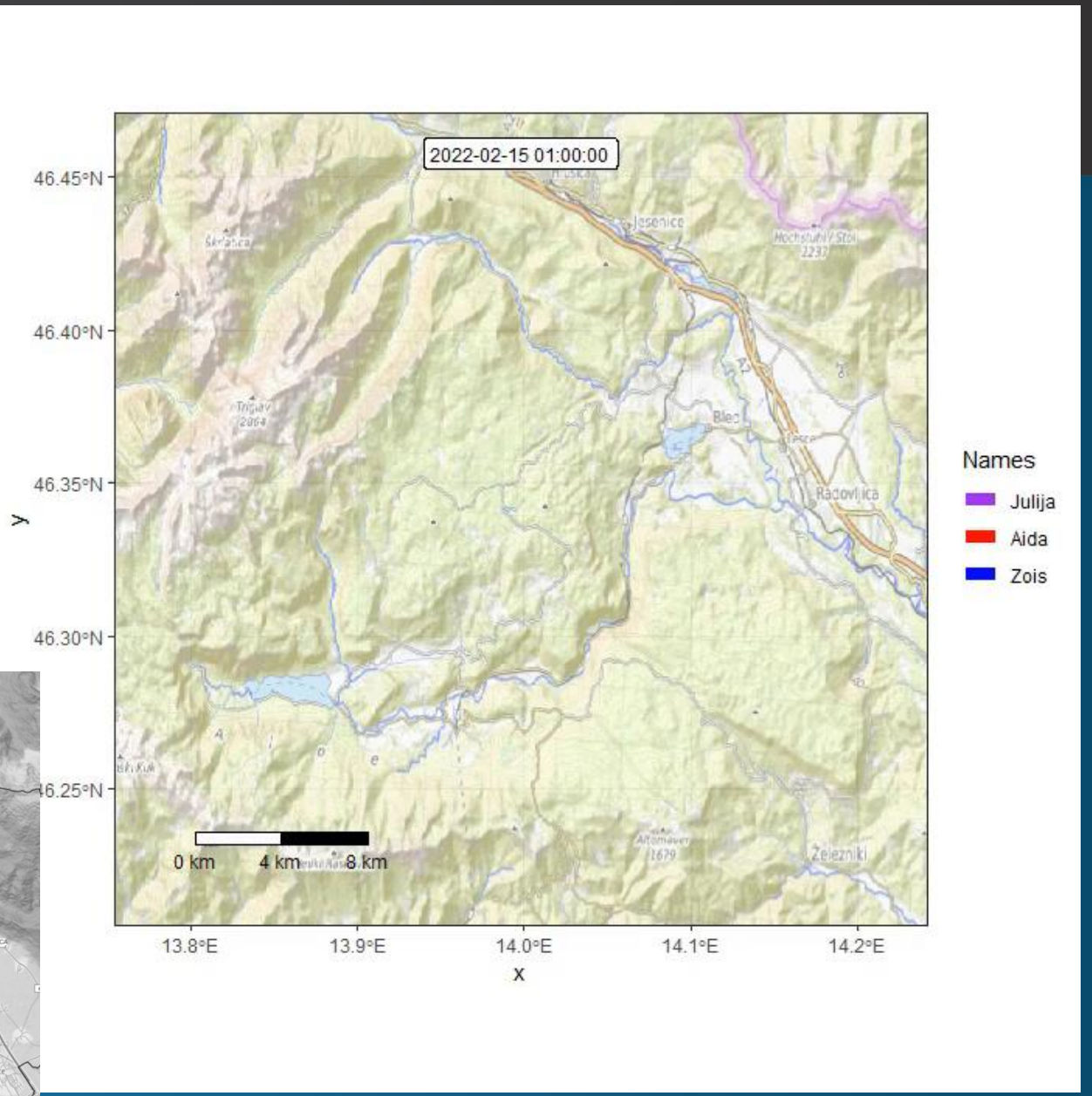
1. GPS telemetry collars
2. Camera traps



GPS telemetry

Reproduction

- Mating excursions
- Denning behaviour



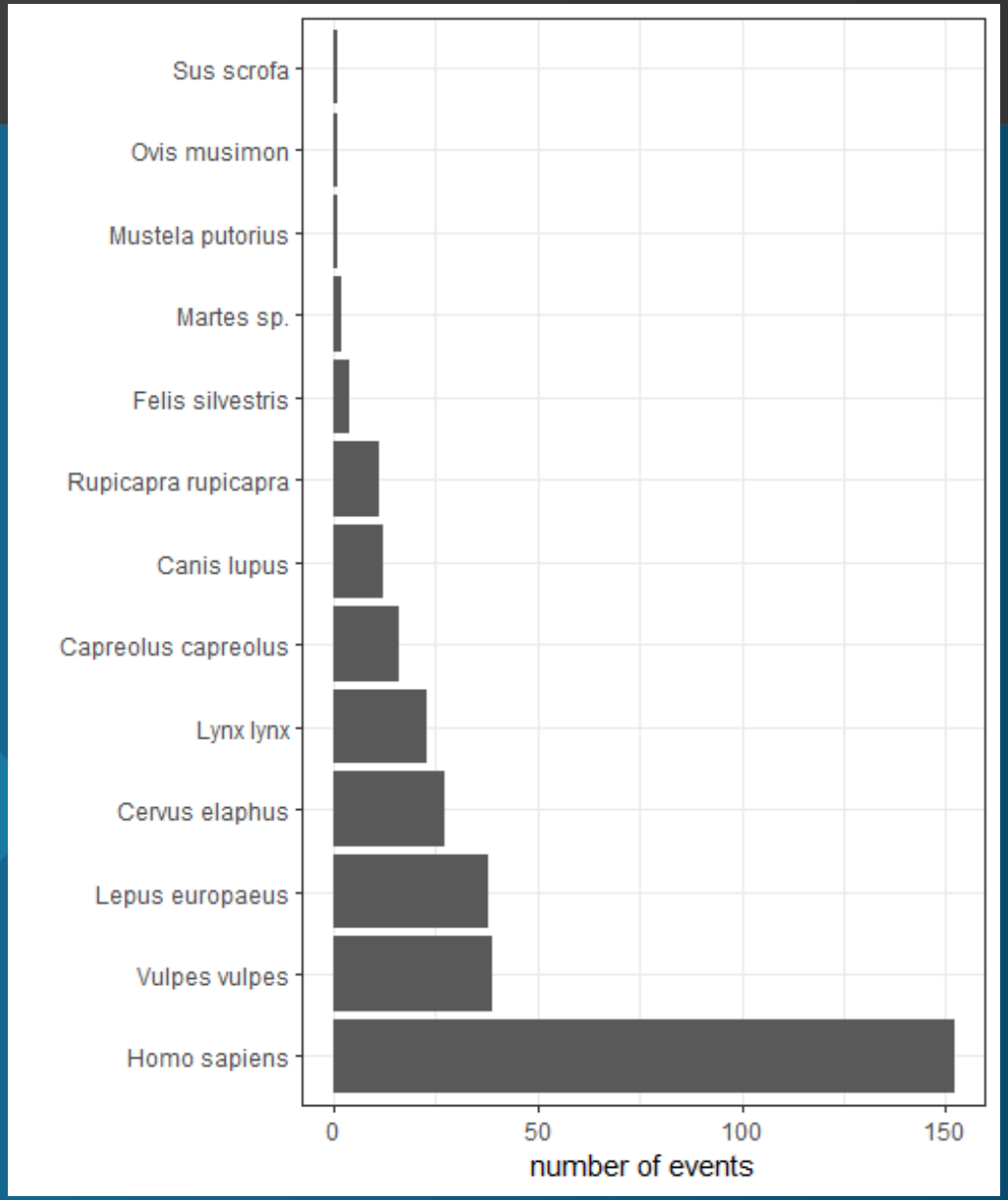
Camera trapping

- ✓ Used for systematic monitoring of the distribution and abundance of the lynx population in Slovenia
- ✓ Pilot implementation in the Alps in 2021, expanded in 2022
- ✓ Detailed reporting within LIFE Lynx project reports, www.lifelynx.eu
- ✓ **Results for TNP presented HERE**

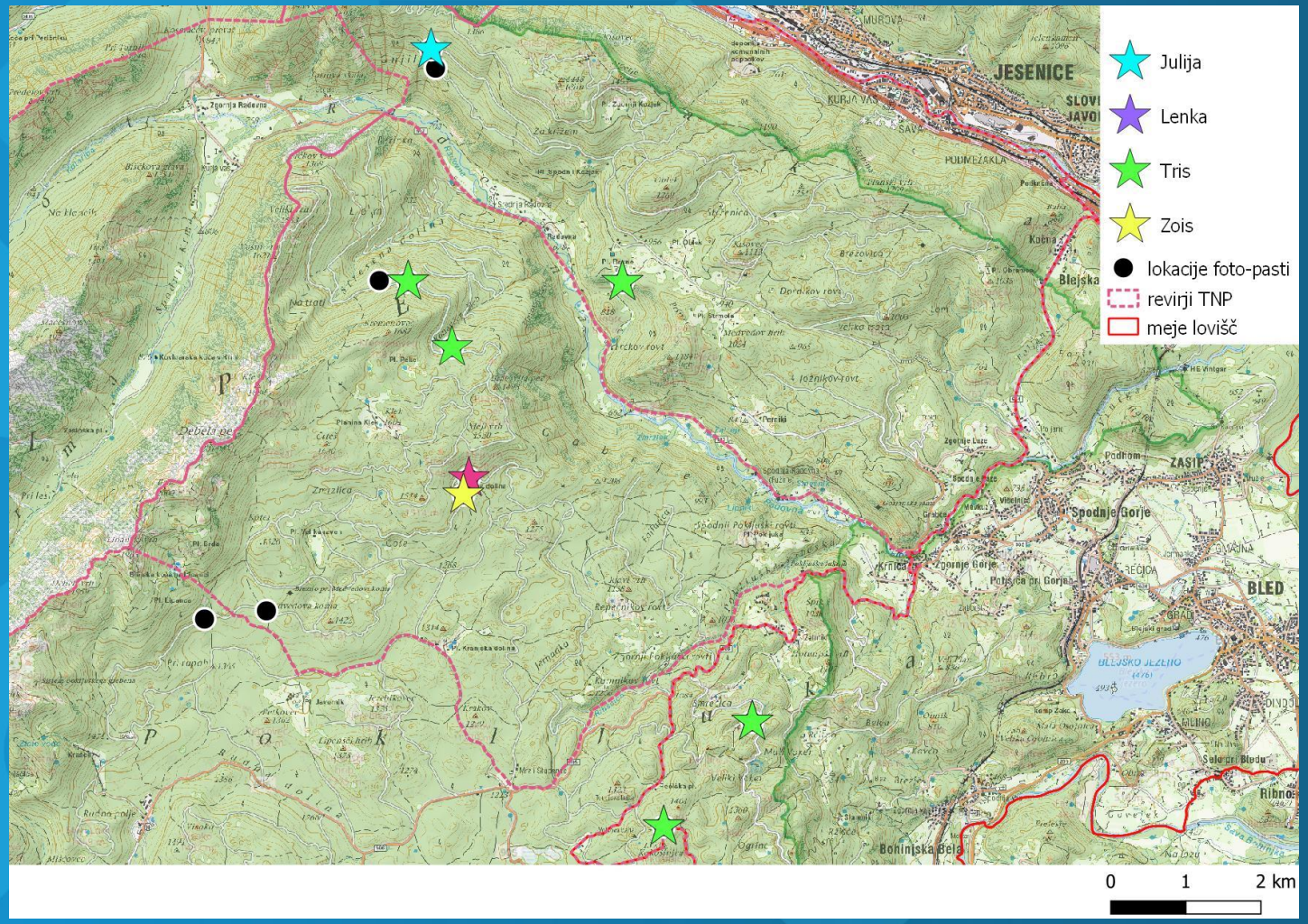
Species diversity in TNP

- 12 camera trapping locations
- October to May
- Cameras mainly set on forest roads and ridges

- 4089 photos collected
- 12 species of mammals recorded



Lynx records

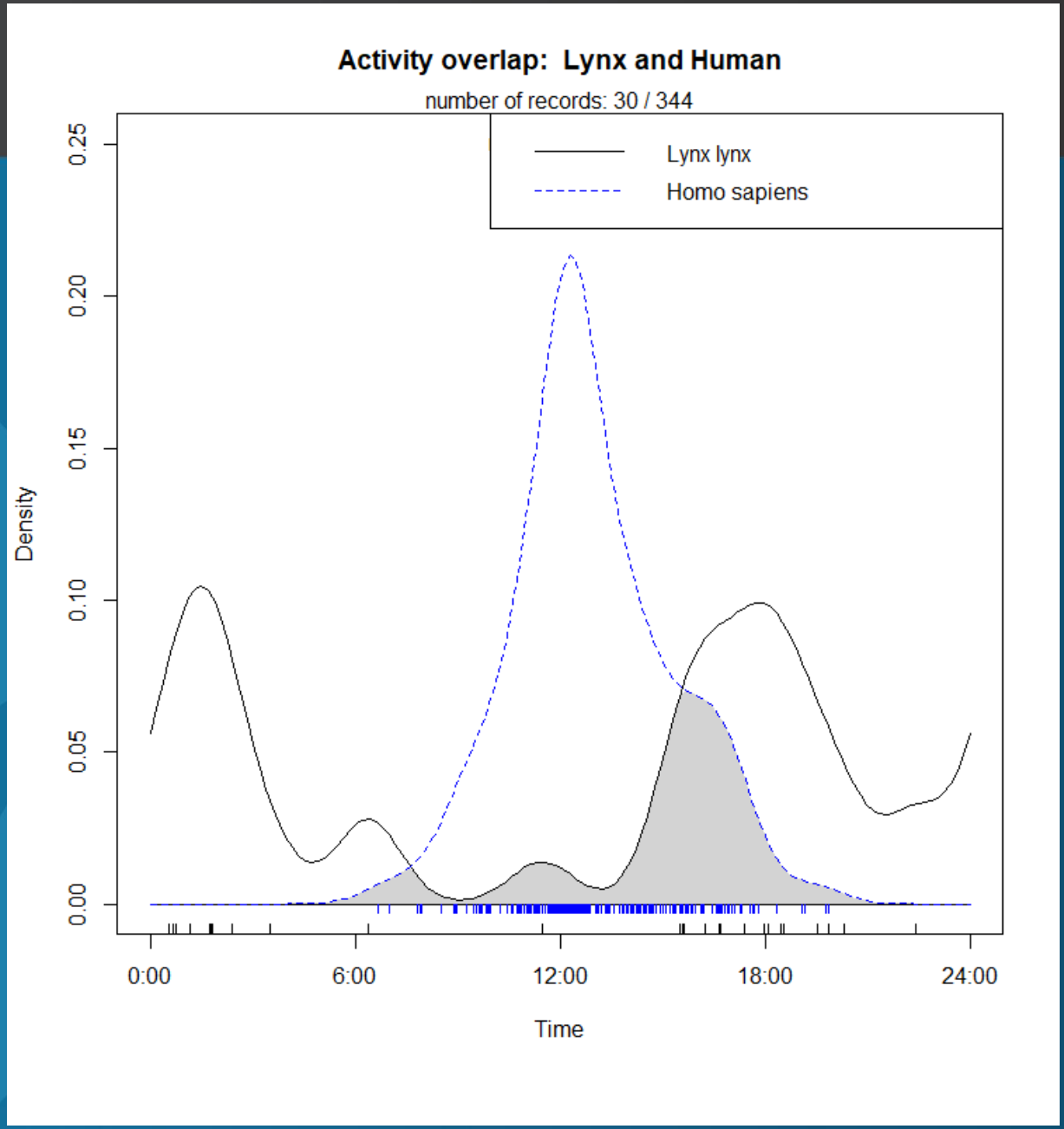


- 31 records of lynx on 8 locations
- 4 different lynx recognized (three translocated territorial + one male on a mating excursion)

Activity data

Daily activity of lynx and human

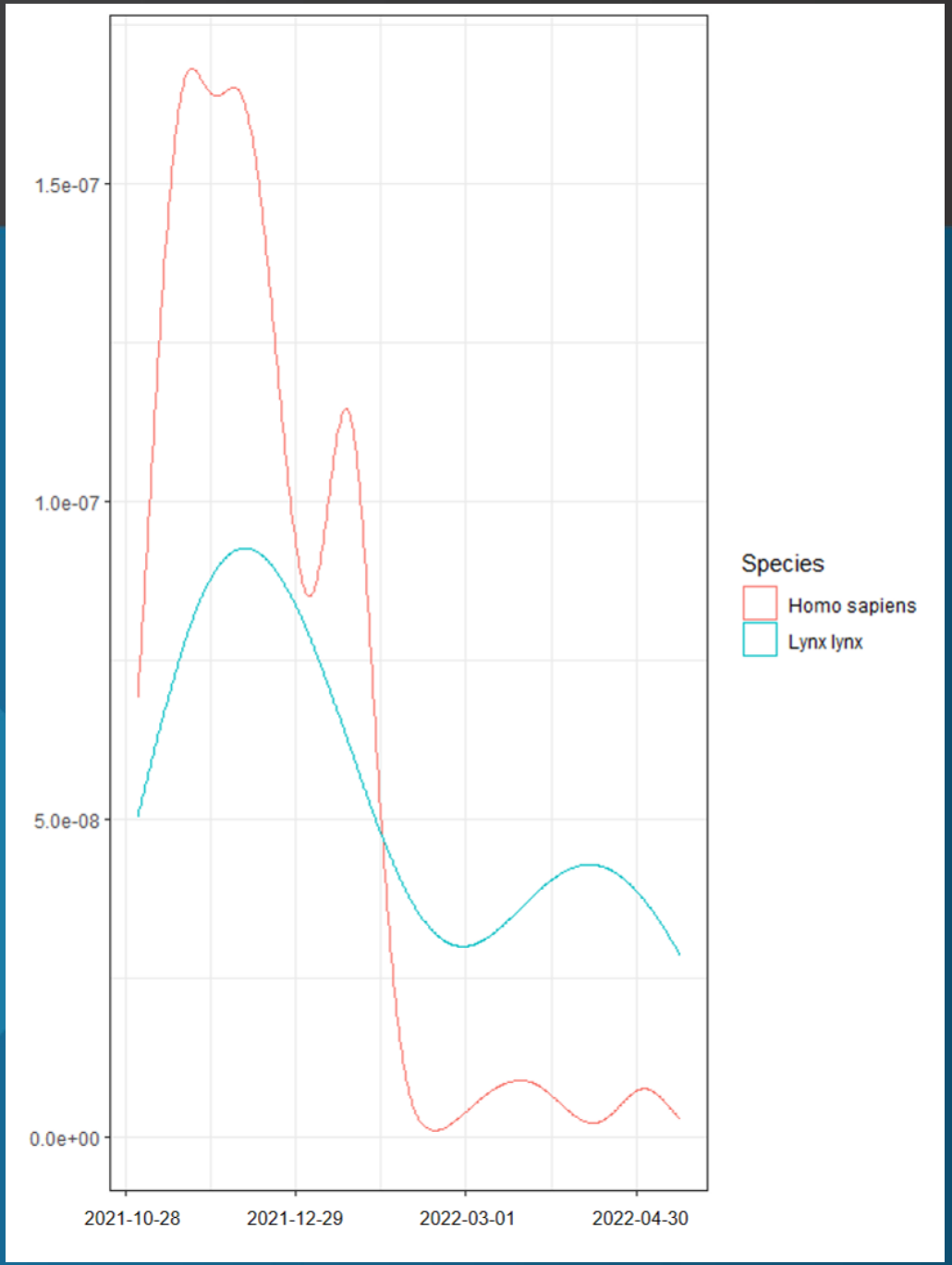
✓ **largest overlap in the late afternoon**



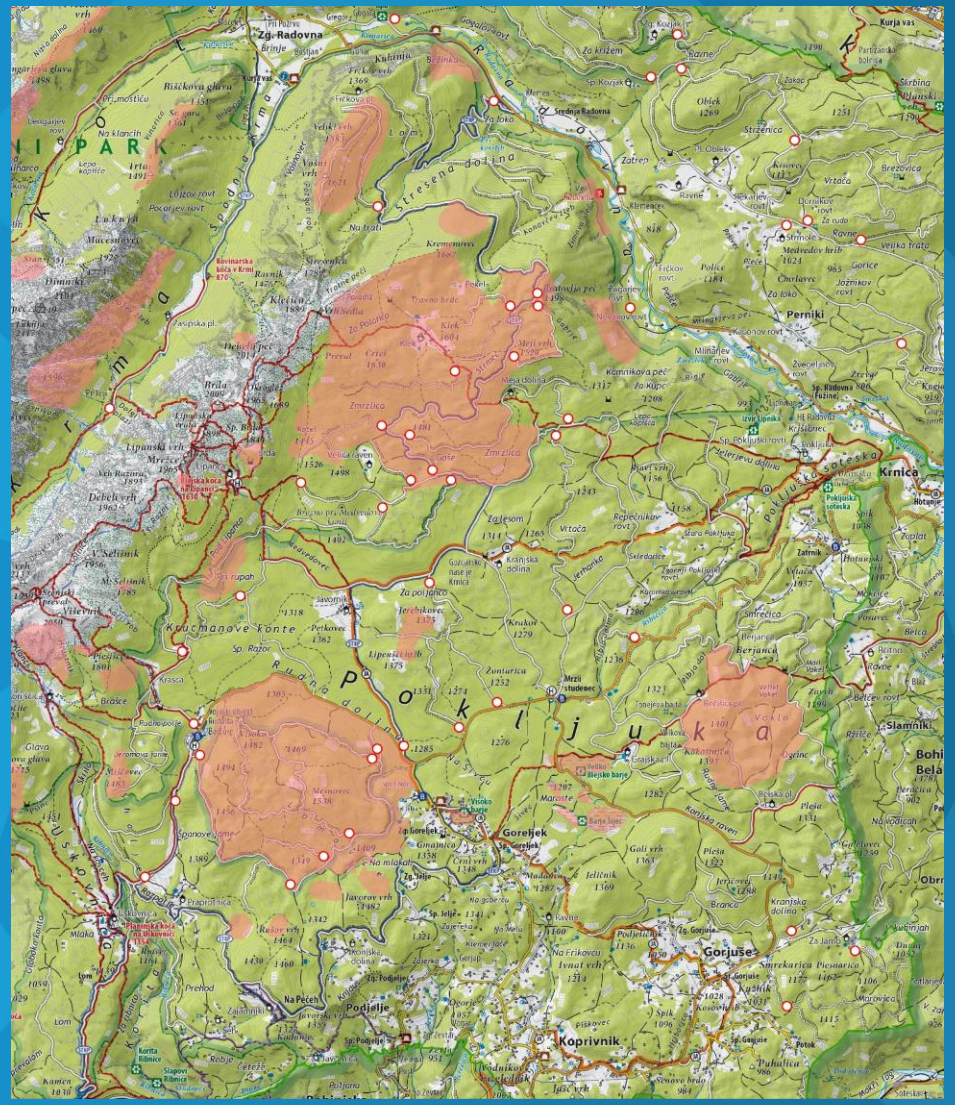
Activity data

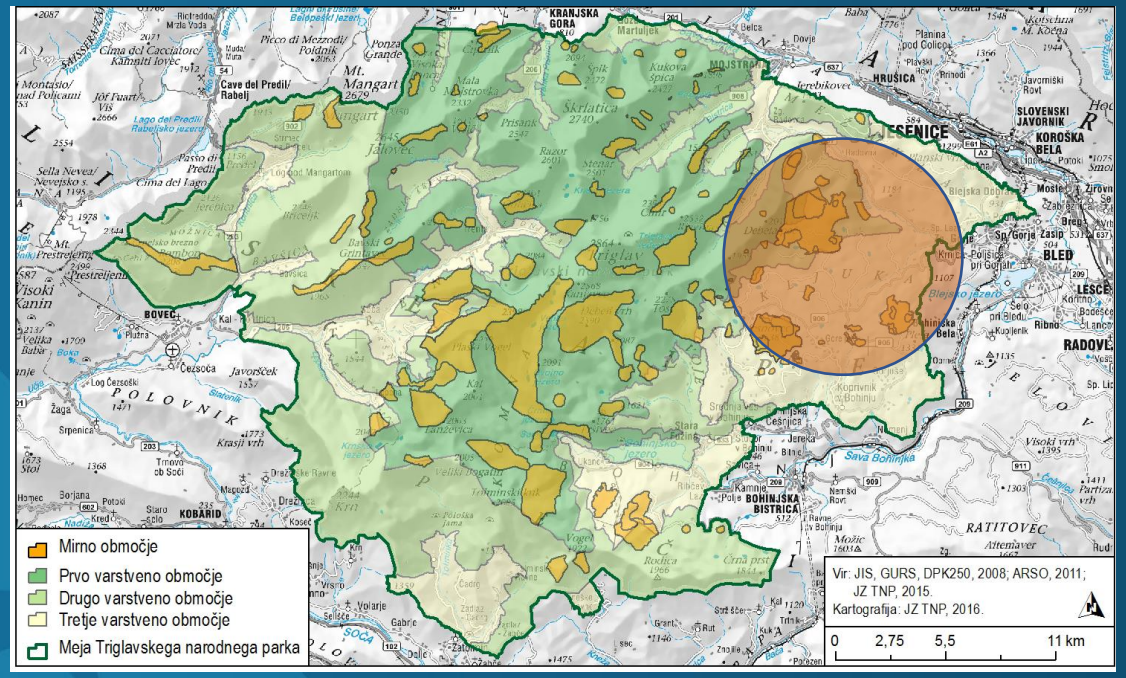
<u>Seasonal activity</u> of lynx and human

- ✓ **general activity decrease in winter**
- ✓ **higher activity of human than lynx in autumn and opposite in winter**



The role of quiet areas and the establishment of ramps in Pokljuka

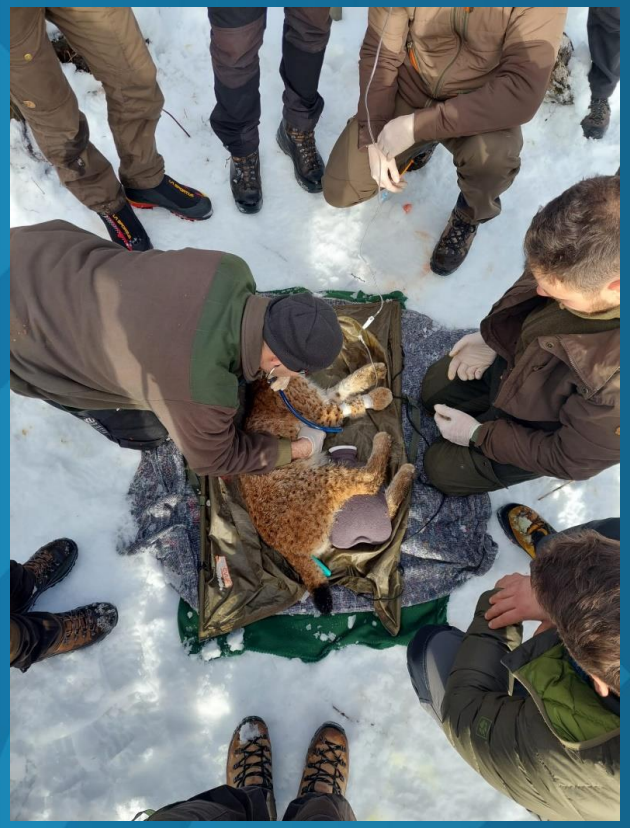




Summary

- ✓Lynx, translocated to the Alps, have stayed there
- ✓Lynx are successfully reproducing in the Alps (3 confirmed litters so far)
- ✓**Lynx are present even if there is high visitation**
- ✓**Successful management of visitation (implementing measures) is important for lynx**
- ✓Continued GPS telemetry studies
- ✓Continued population development monitoring, especially camera trapping and genetic sampling
- ✓High contribution of the local community for lynx reintroduction to the Alps
- ✓Good collaboration with hunters in hunting clubs and Triglav National Park

Hvala!



Januar 2023 Triglavski narodni park / Ljubljanska cesta 27 / 4260 Bled / tel +386 04 578 02 00 / www. tnp.si / triglavski-narodni-park@gov.si