



The Swiss National Park

Current state, the past and the future – lessons learnt

Ruedi Haller
Head Research and Geoinformation, Swiss National Park



Lessons learnt

- It needs courage, trust in the power of nature and good arguments toward the stakeholders to allow natural processes (wilderness). Scientific research on ecosystem structure and dynamics in the area is a key for acceptance. It ensures the information activities towards all stakeholders.
- The consistent and politically independent dedication of the strategic commission of the SNP in terms of the protection process was a key of success. But it needs a careful audit of new or possibly corrected ecological and socio-political knowledge. Sometimes, time has changed attitudes. On setbacks followed success stories.
- To have “only” one national park set in an high alpine area in Switzerland might be a disadvantage. But as a 100 years old IUCN 1a PA it serves as an ideal model worldwide for nature conversation in its strict sense.



Geographical Location








Founding in	1914
Category	1A IUCN (wilderness)
Area (in ha)	17'032
Ownership	4 municipalities
Lowest point	1374 m
Highest point	3173 m
Trails	80 km
Population	0
Visitors per year	150'000
Management	ngo (Foundation)
Employees	41 (27 full time job equivalent)

Biosphärenreservat

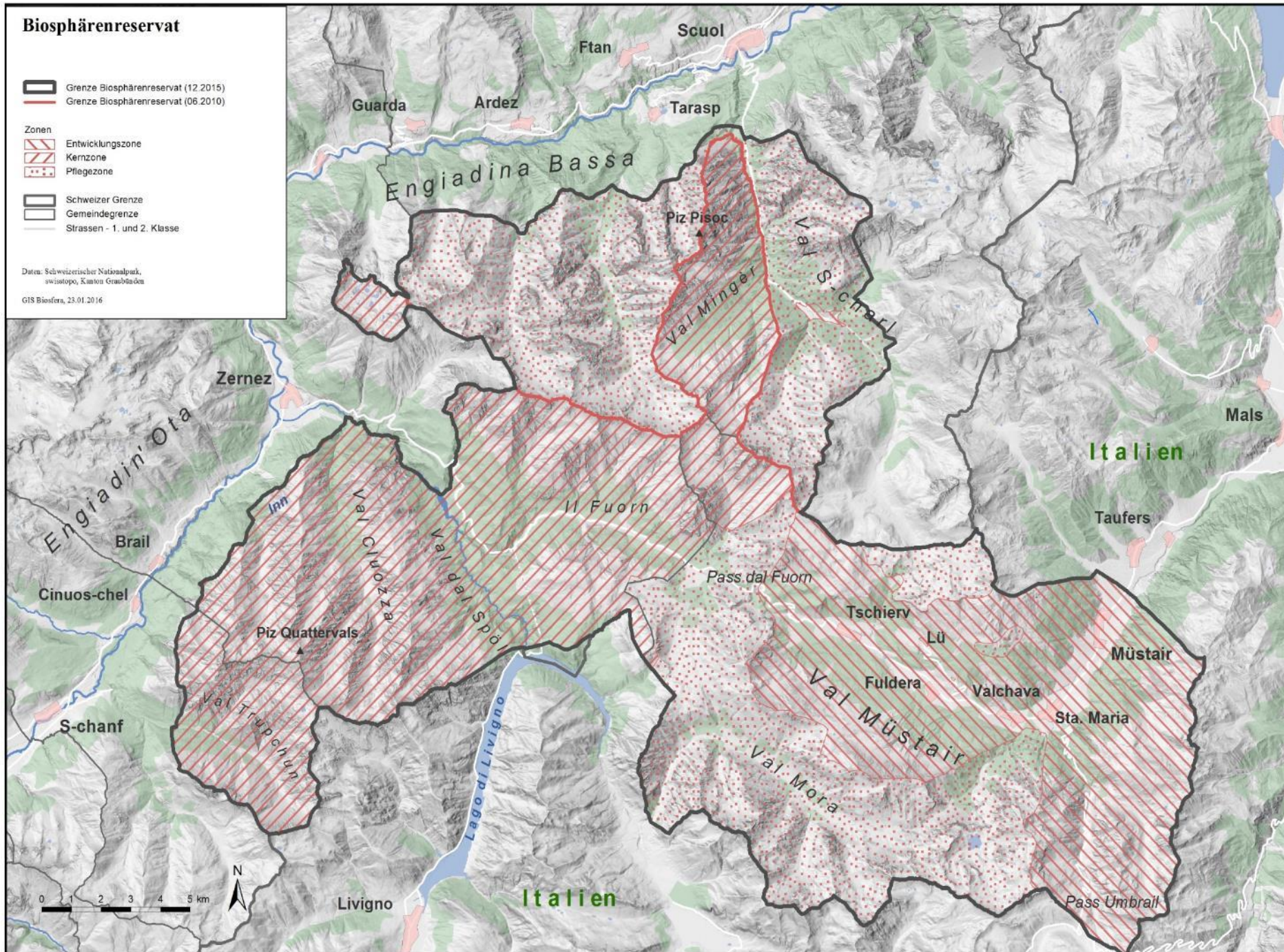
-  Grenze Biosphärenreservat (12.2015)
-  Grenze Biosphärenreservat (06.2010)

- Zonen
-  Entwicklungszone
 -  Kernzone
 -  Pflegezone

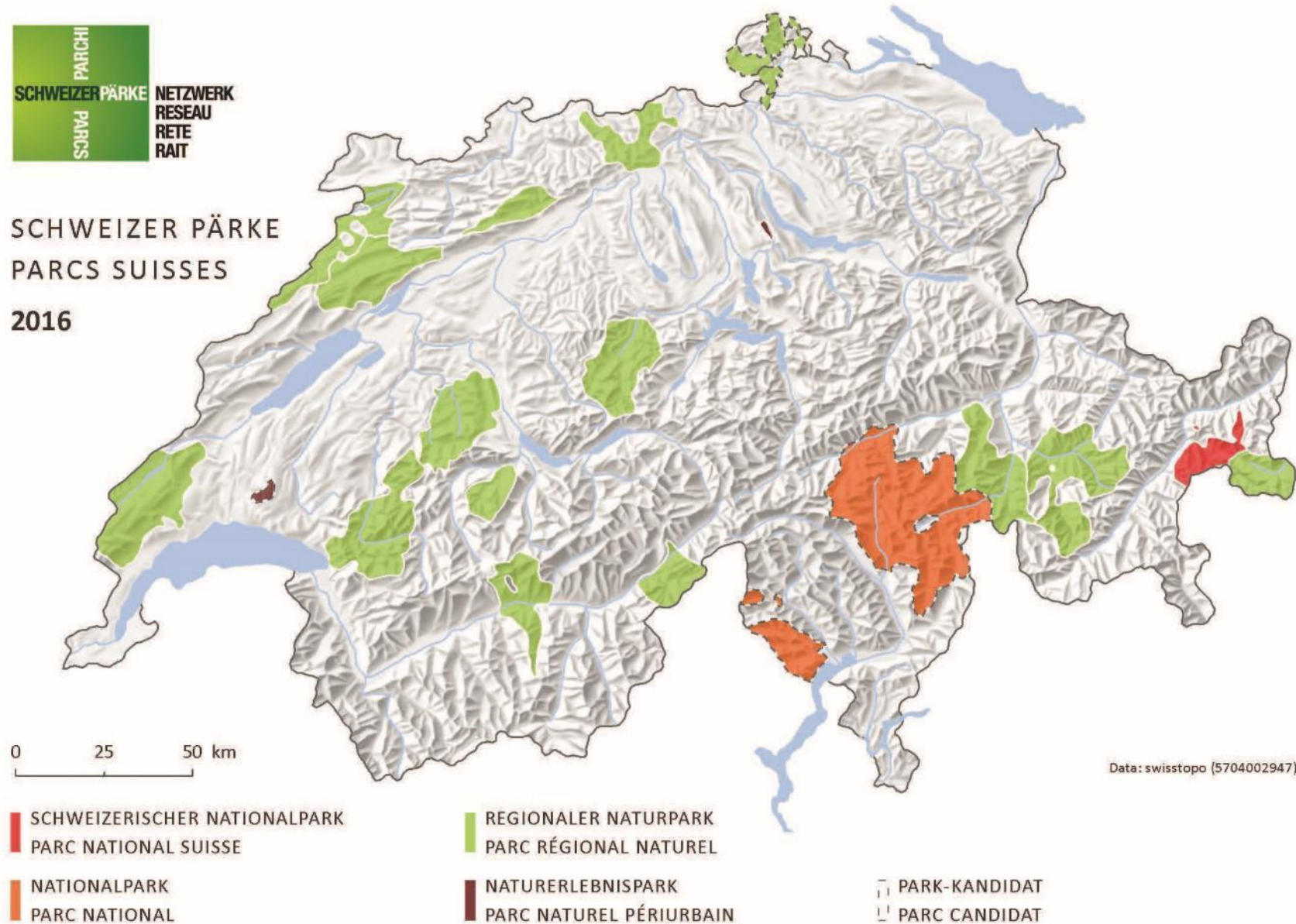
-  Schweizer Grenze
-  Gemeindegrenze
-  Strassen - 1. und 2. Klasse

Daten: Schweizerischer Nationalpark,
swisstopo, Kanton Graubünden

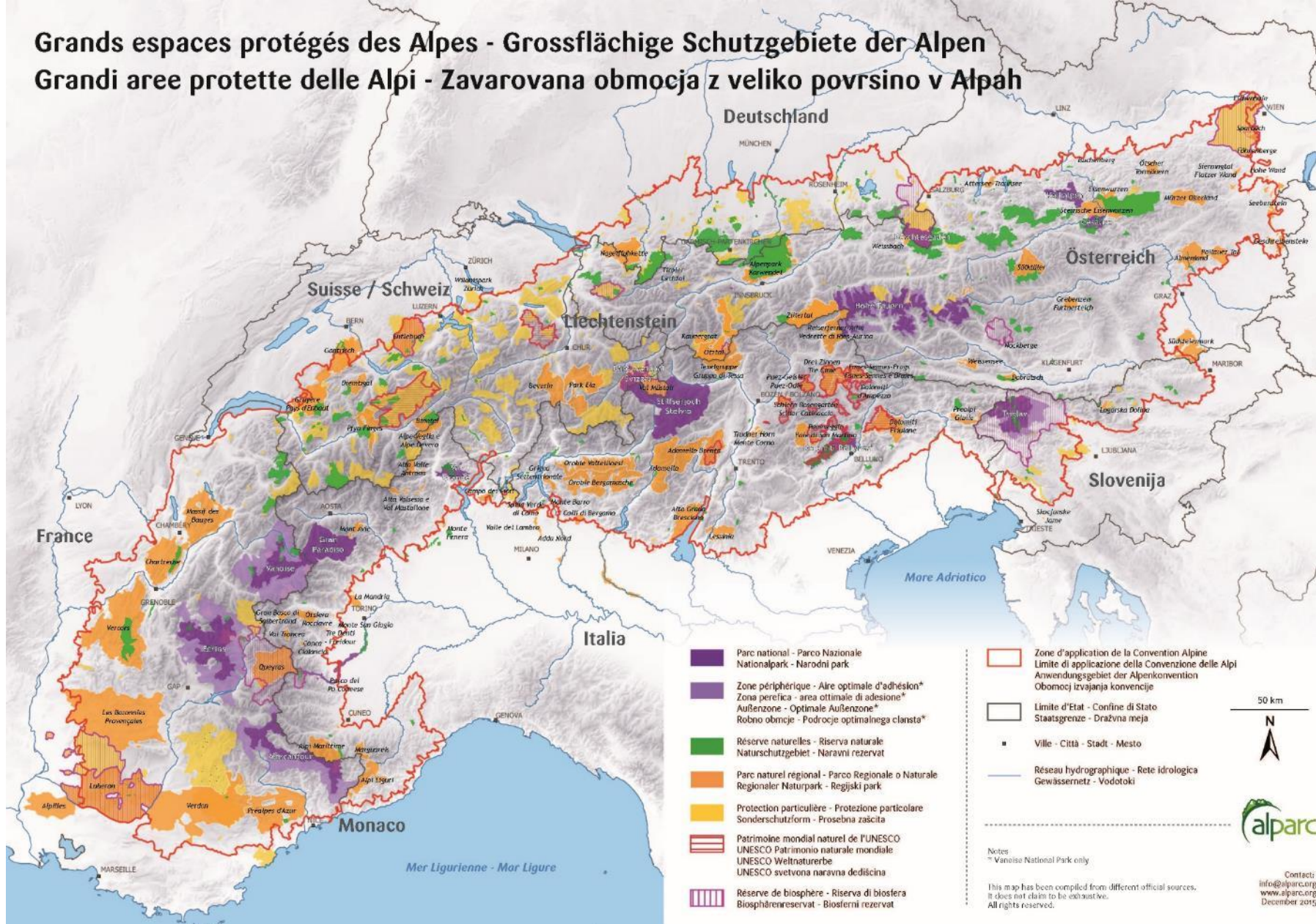
GIS Biosfera, 23.01.2016



SCHWEIZER PÄRKE
 PARCS SUISSES
 2016



Grands espaces protégés des Alpes - Grossflächige Schutzgebiete der Alpen Grandi aree protette delle Alpi - Zavarovana območja z veliko površino v Alpah



Czech National Parks, 21.9.2016

The founders of the «Schweizerischer Nationalpark»



The vision 1914

"All previous changes of the original state over centuries - the long term effects of the hunters, fishermen, foresters, agriculturists, shepherds and mowers [...] - will disappear over time and the old original community of life will be restored. A great wilderness experiment will be performed there."

Schröter 1920



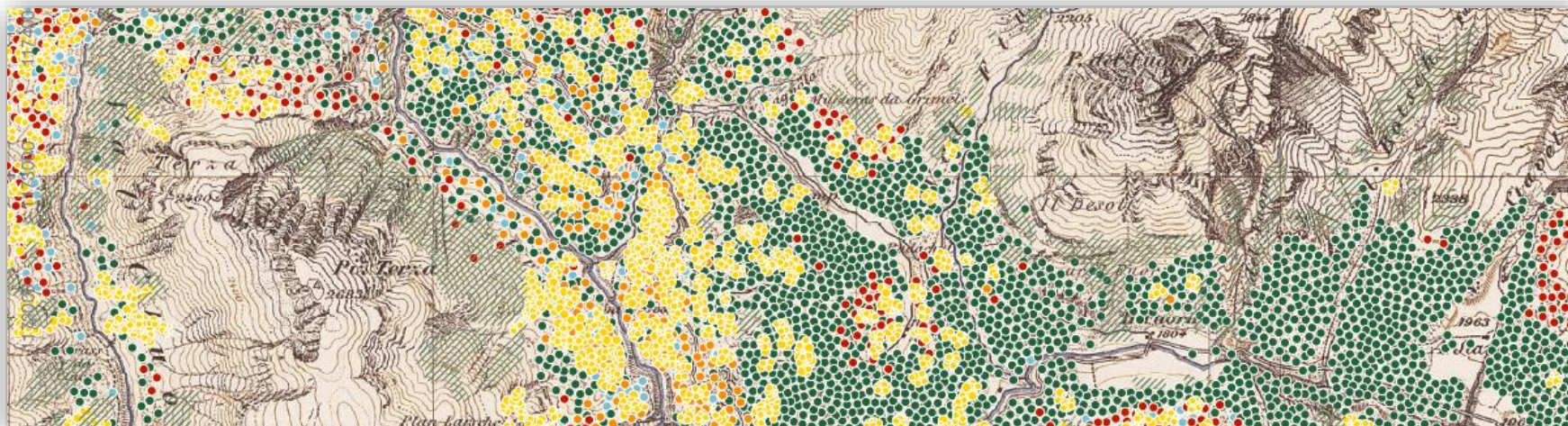
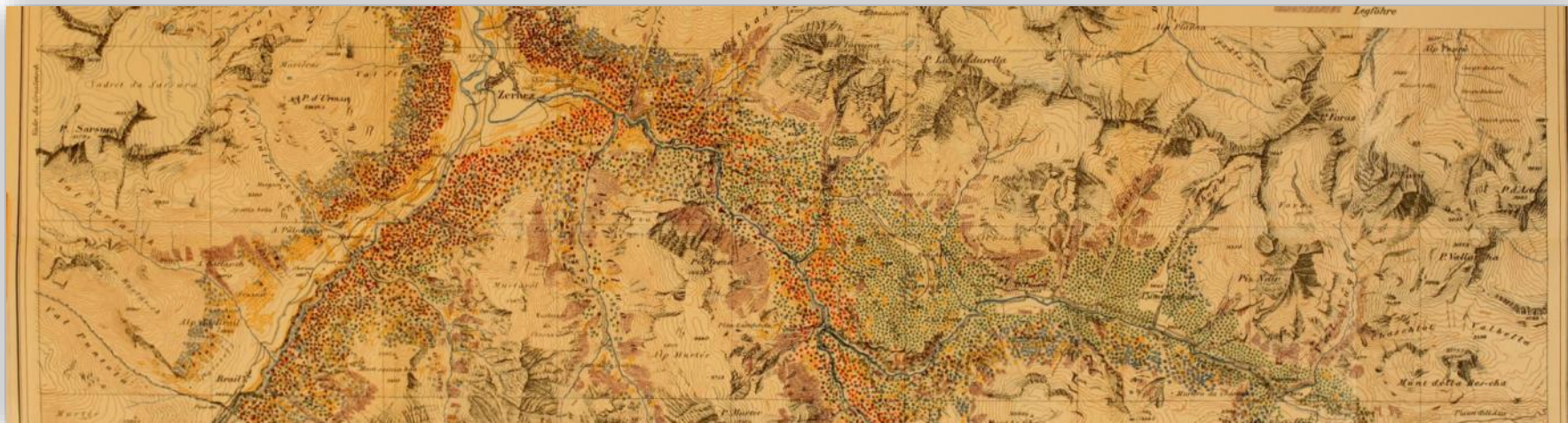


Swisstopo 1936



2009

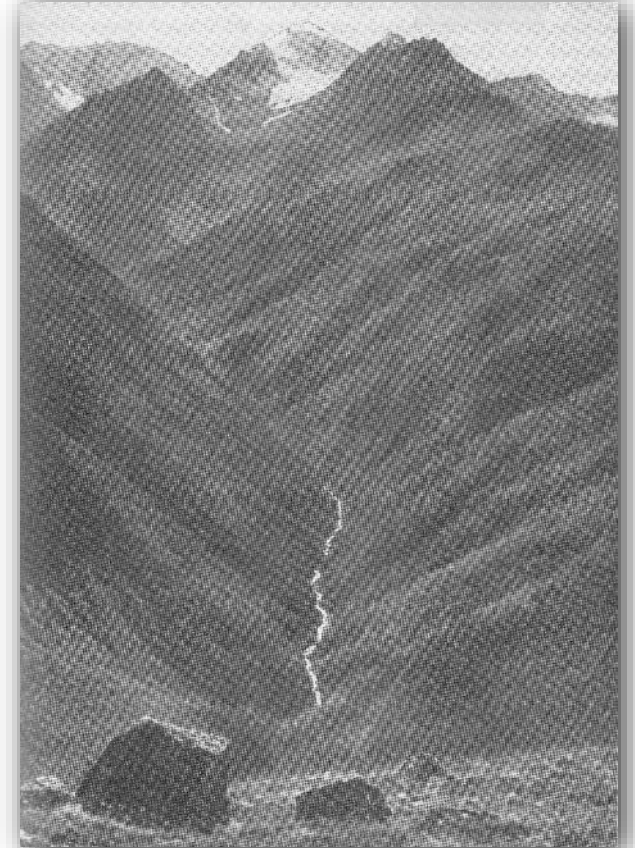
Nature conservation justification 1914



Local stakeholder involvement 1914

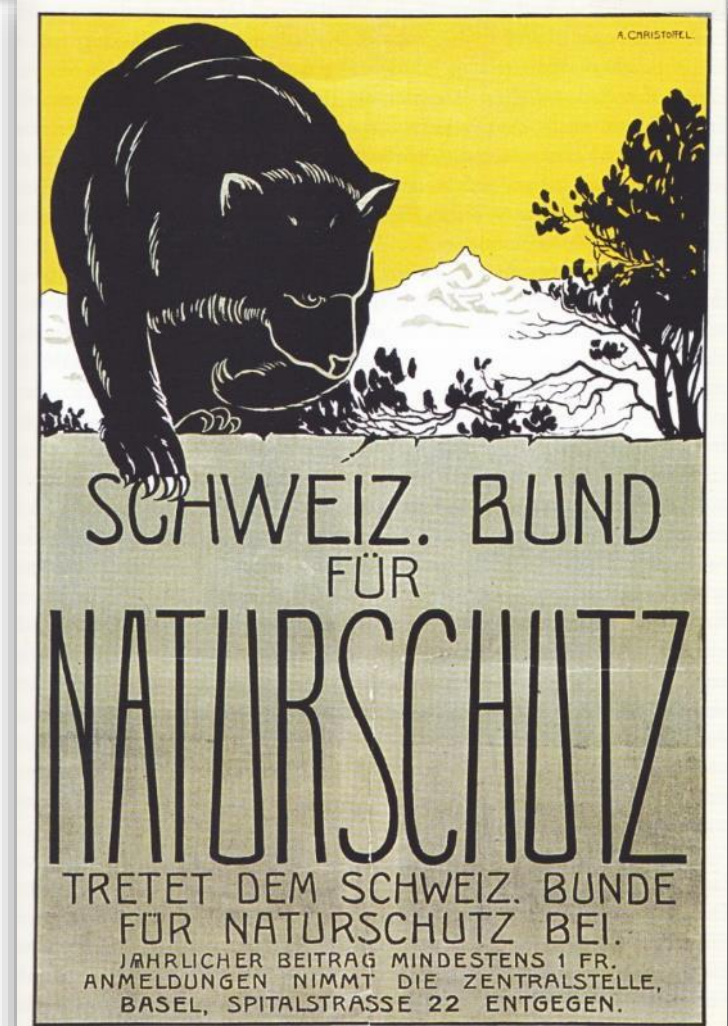
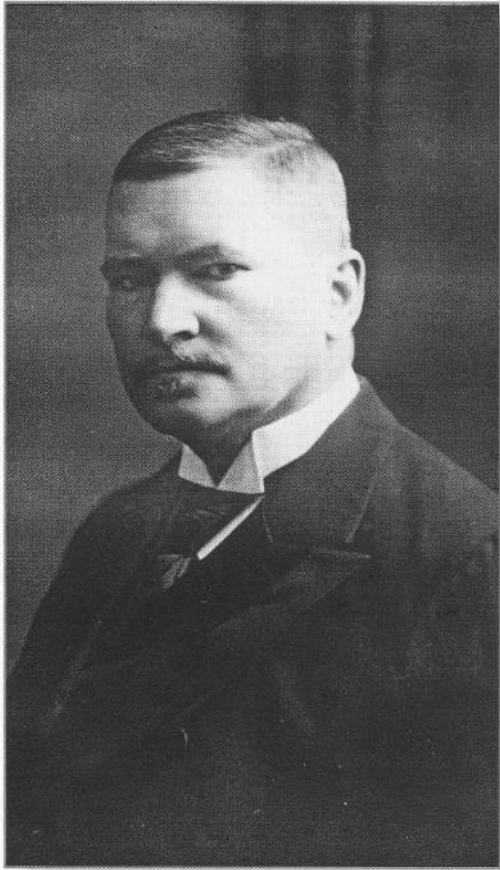


Curdin Grass, council of
Zernez and brother in law of
Steivan Brunies



Val Cluozza: "Instead of
idyllic alpine valleys a devil
valley without green spot"

Swiss public involvement 1914



Governance 1914



BERN, Freitag 27. März Jahrg. XXIV 1914 XXIV^{me} année BERNE, vendredi 27 mars

Amtliches
stenographisches Bulletin
der
schweizerischen Bundesversammlung



BULLETIN
STÉNOGRAPHIQUE OFFICIEL
DE
L'ASSEMBLÉE FÉDÉRALE SUISSE

N^o 12

Abonnemente: Jährlich Fr. 2. — für die Schweiz, Fr. 6. — für das übrige Postvereinsgebiet. In der Schweiz kann nur bei der Post abonniert werden. Abonnements: Un an: Suisse fra. 2. —, Union postale fra. 6. —, On s'abonne en Suisse exclusivement aux offices postaux.

Nationalrat — Conseil national
Sitzung vom 27. März 1914, vormittags 8¹/₄ Uhr — Séance du 27 mars 1914, à 8¹/₄ heures du matin.

Vorsitz: } Hr. Planta
Présidence: }

Tagesordnung: — *Ordre du jour:*

Bundesbeschluss betreffend die Errichtung eines schweizerischen Nationalparks im Unterengadin.



Natural processes



Scientific research



Public relations



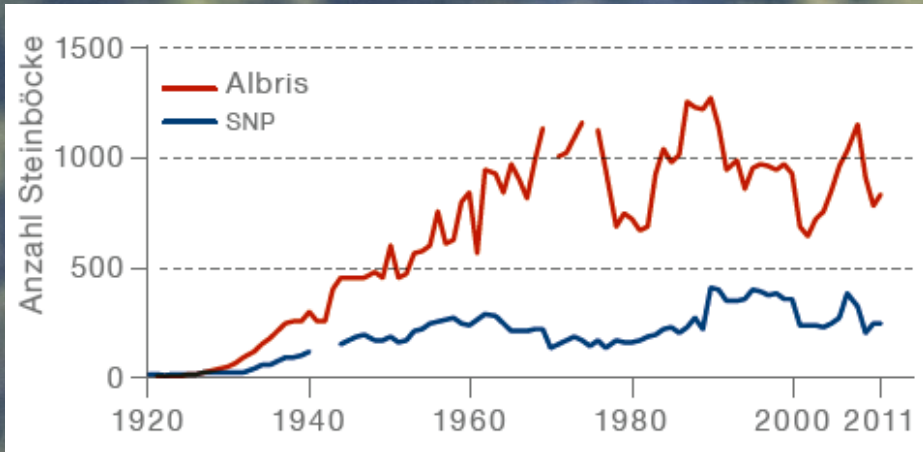
Strictly protected

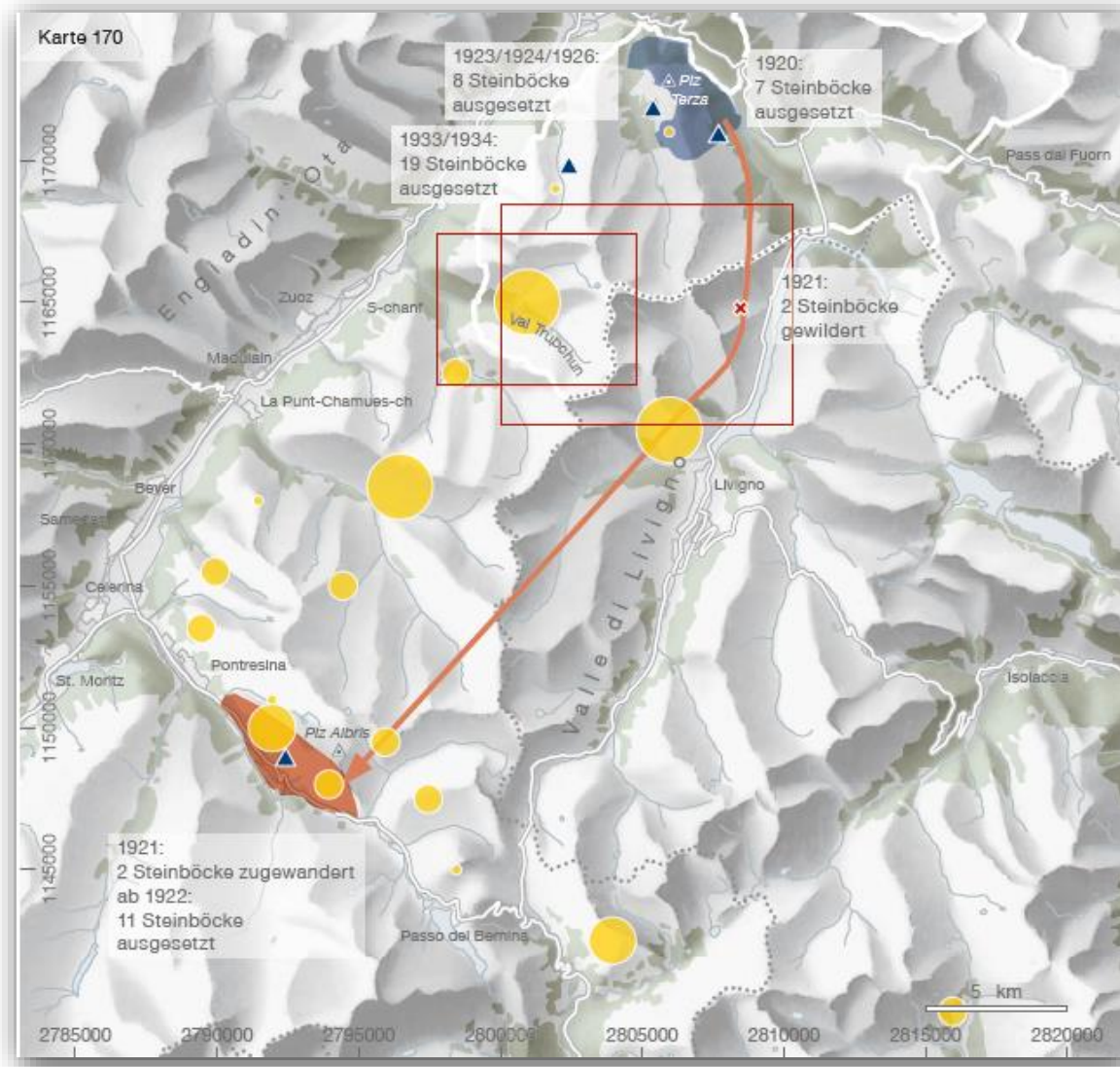
- It is forbidden to leave the marked hiking trails
- It is forbidden to carry around natural objects, animals, plants, wood or stone
- Dogs are not allowed, even on a leash
- All winter sport, cycling and flying machines are prohibited
- Swimming in lakes and streams is prohibited
- It is forbidden to make fire
- Camping is not allowed, not even in vehicles along the road
- The natural environment should not be changed

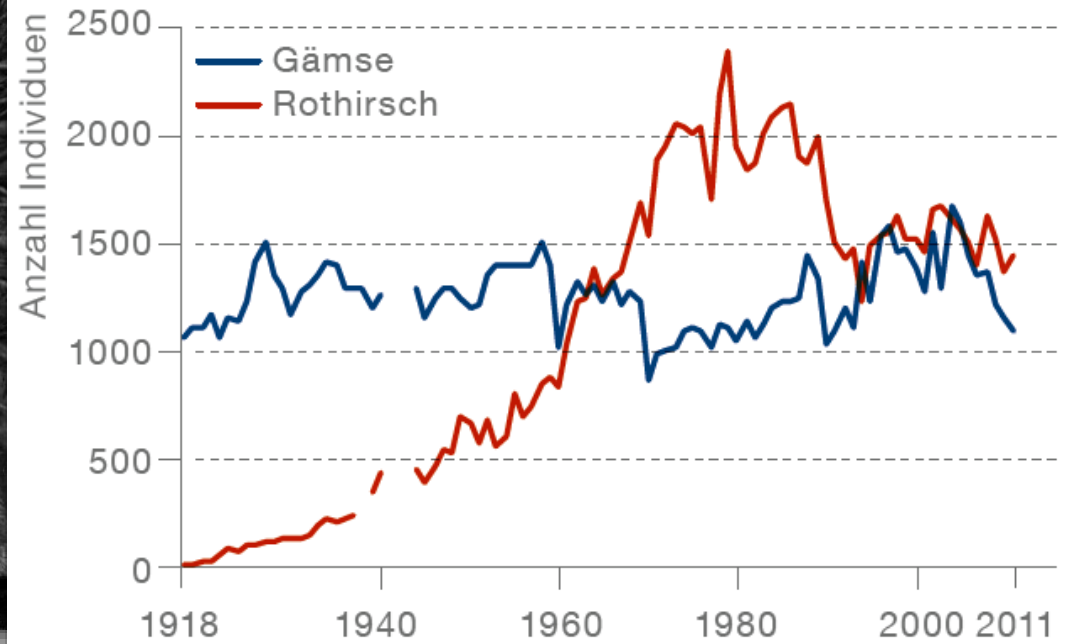
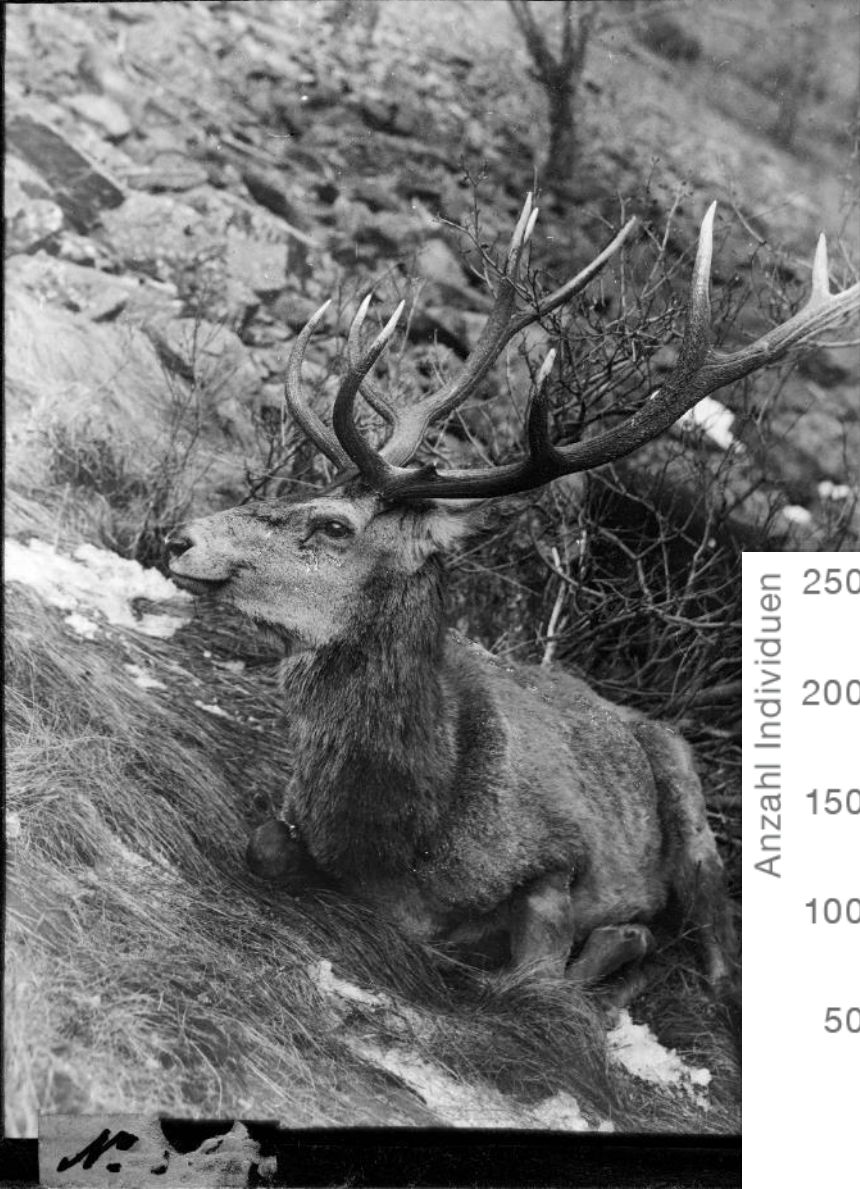


Reintroduction of ibex 1921









Blick

UNABHÄNGIGE SCHWEIZER TAGESZEITUNG



28. Juli 1972

Etwas erlebt? Etwas passiert? Blick-Leser telefonieren: 01 / 36 36 36

DISCOUNT FELD MANN

Radio TV
Hi-Fi
Foto
Kino
Schall-
Platten



Bestellen Sie jetzt online über unser
Webshop-Katalog und unsere
Kundenkarte, und alles
viel billiger
als andere Fachgeschäfte mit
Besten Kundendienst.

NIN-Versand

COUPON
Bitte Katalog senden
Name: _____
Strasse: _____
PLZ, Ort: _____

Usterstrasse 72-79
8001 Zürich, Tel. 01 47 70 10
Telefax 01 442 8082 Zürich-Dufour Tel. 01 80 22 22
Zürichstrasse 14 4021 Basel, Tel. 069 22 48 22

Achtung:
Ab Montag
erscheinen
im BLICK
die Gewinn-
Zahlen der
Olympia-
Smily-
Aktion!
Bargeld
lacht ...

1000



Nationalpark-Hirsche müssen sterben!

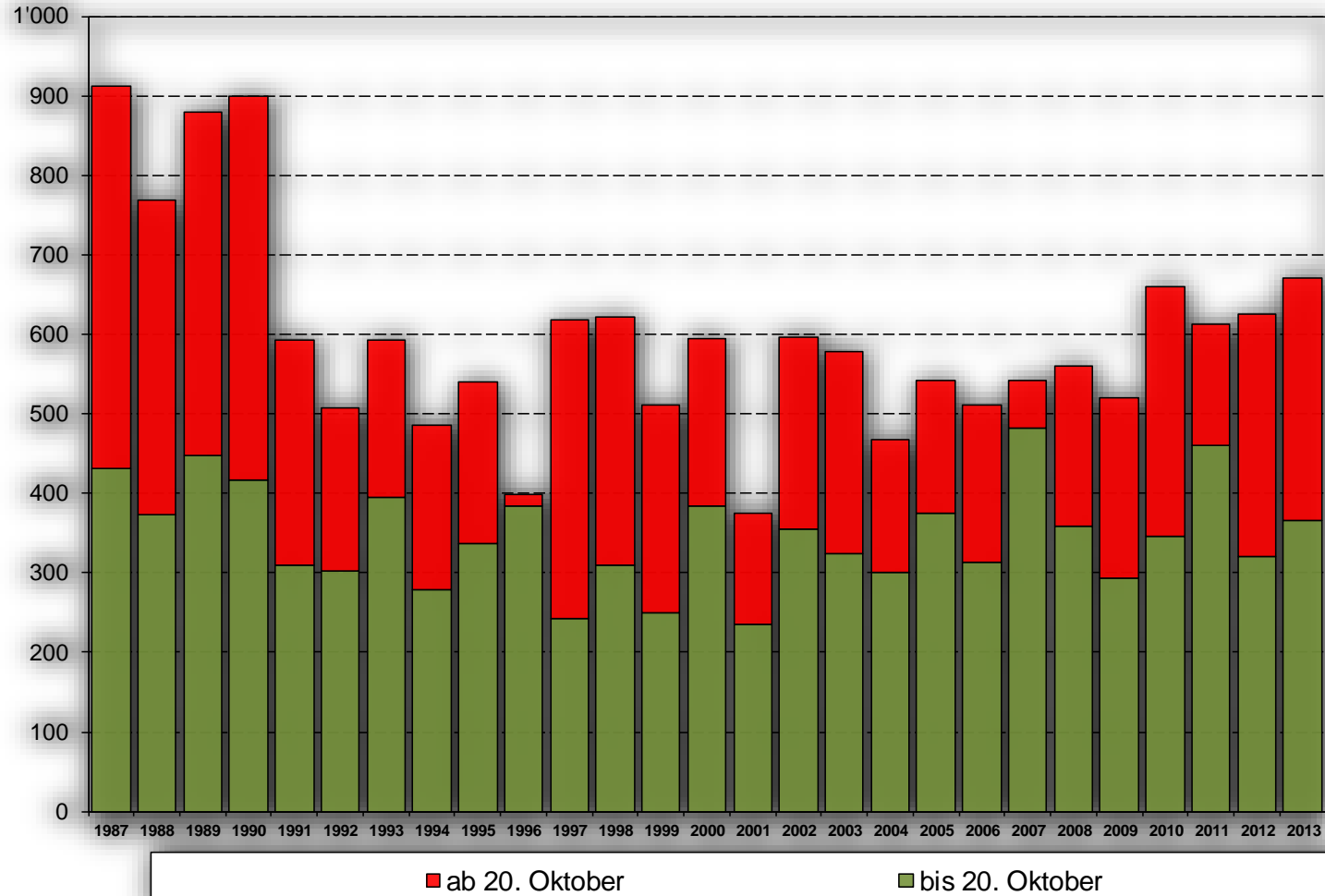
ZERNEZ (GR) — Die Eidgenössische Nationalparkkommission und der Bündner Regierungsrat haben beschlossen...



Biological, Veterinary, Forestry Studies



Red deer management around the SNP





The expectations of change

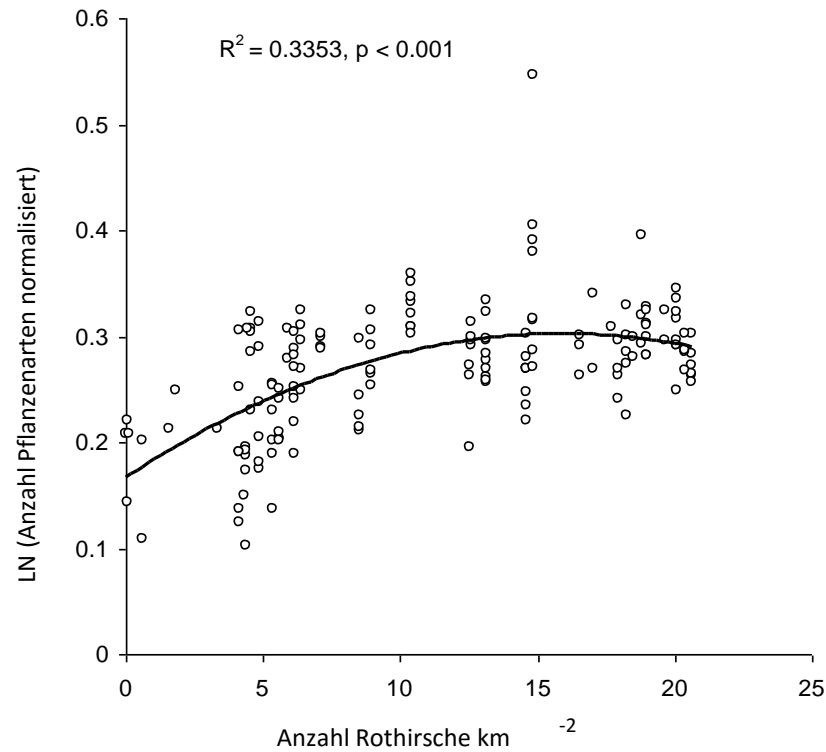


1917



2009

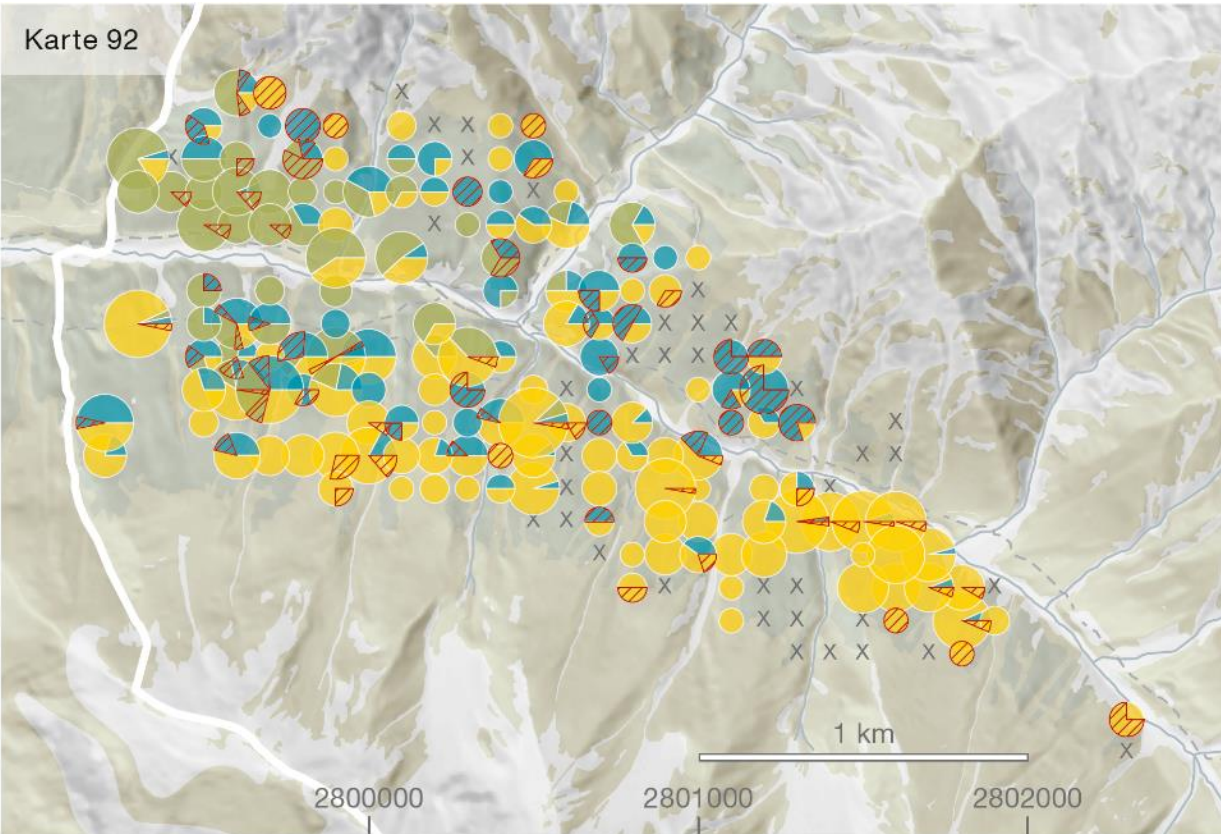
Red deer influence on biodiversity



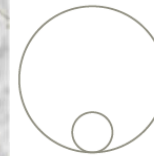
Schütz et al. (1999)

Red deer influence on the NP forest sapling

Karte 92



Anzahl Bäume



Max. 10 609/ha

Min. 49/ha

Arten



Arve

Fichte



Lärche

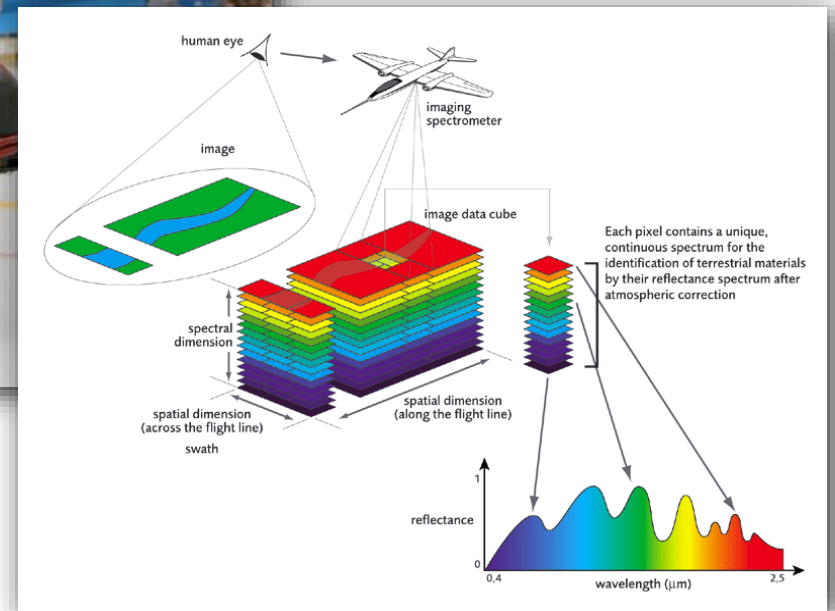
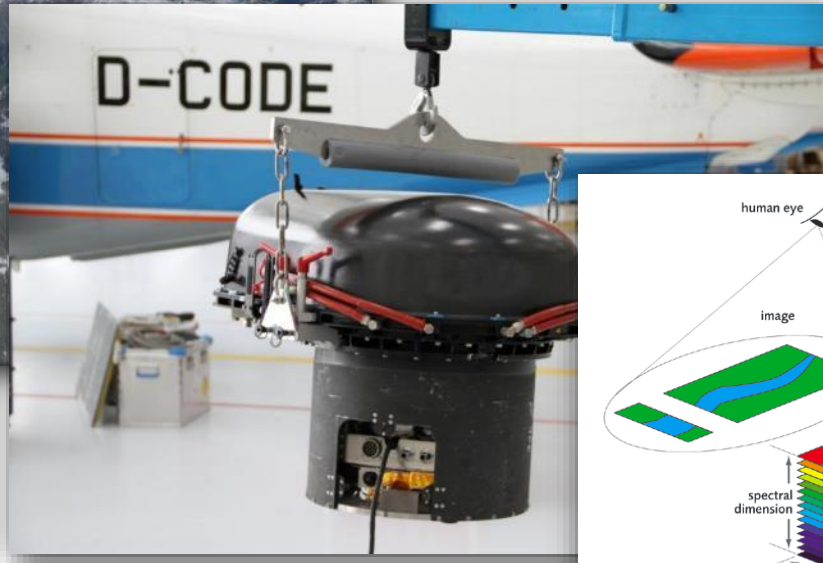


Anteil Feg-, Schlag-
und Schälspuren

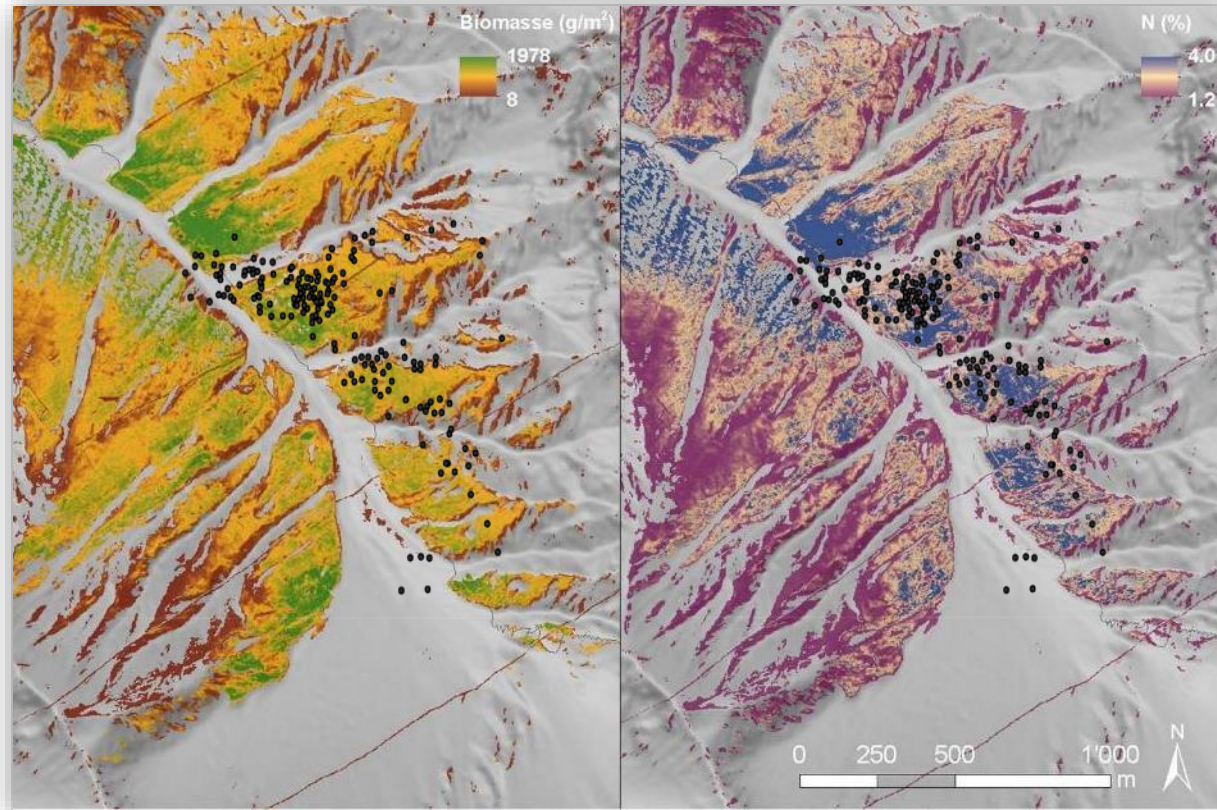


Stichproben ohne
Verjüngung

Measuring and modelling the environment



... to explain resource use of animals



Schweiger et al. (2014). Foraging ecology of three sympatric ungulate species – Behaviour and resource maps indicate differences between chamois, ibex and red deer



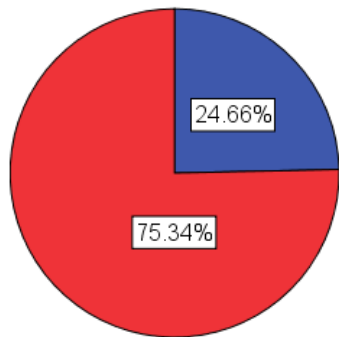
Czech National Parks, 21.9.2016



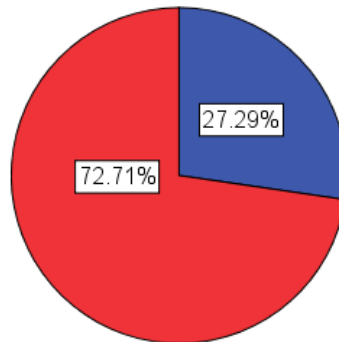
Czech National Parks, 21.9.2016

Why do people come to the national park?

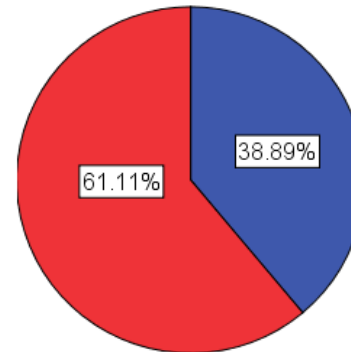
Walking



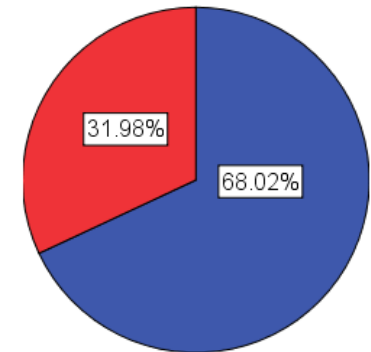
Wildlife



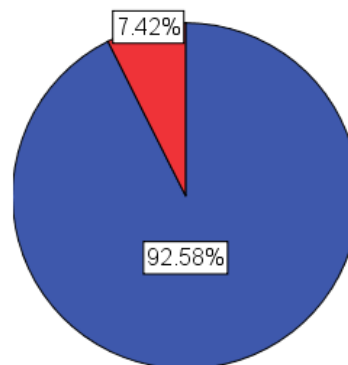
Preserved landscape



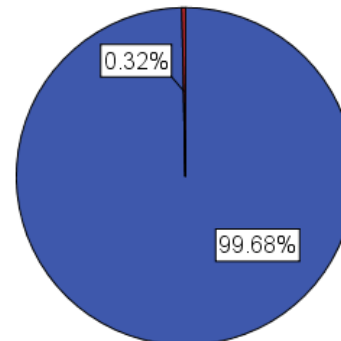
Flora



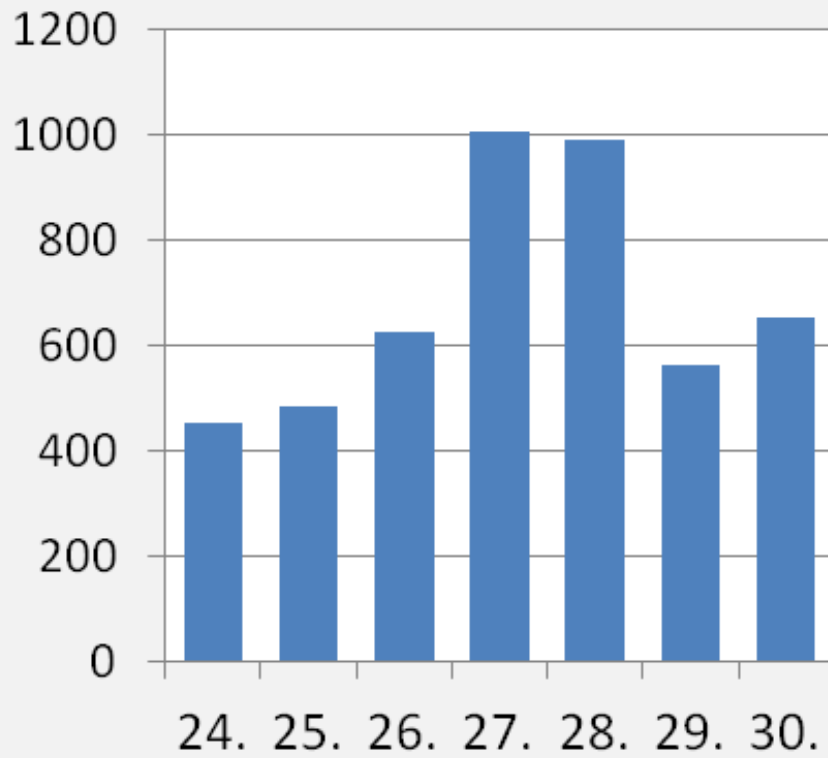
Other reason



No reason

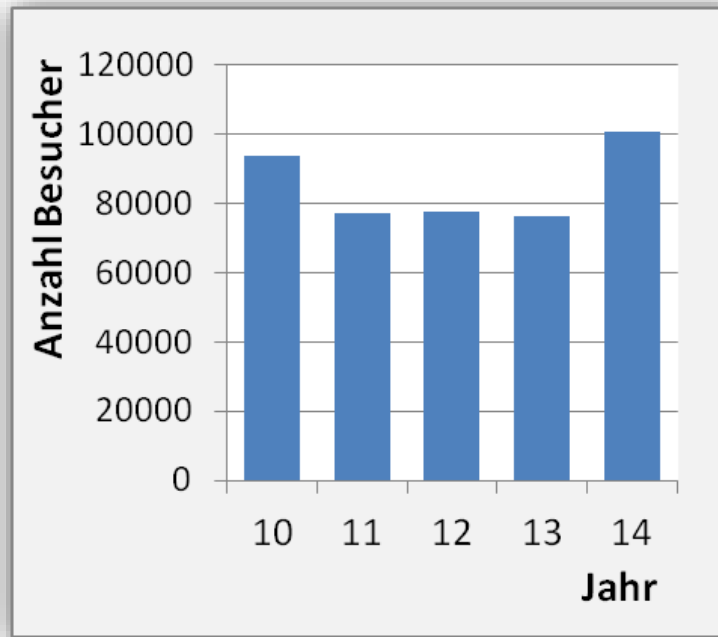


Anzahl Besucher



September 2014

Visitor numbers on the SNP-trails



Strictly protected

- It is forbidden to leave the marked hiking trails
- It is forbidden to carry around natural objects, animals, plants, wood or stone
- Dogs are not allowed, even on a leash
- All winter sport, cycling and flying machines are prohibited
- Swimming in lakes and streams is prohibited
- It is forbidden to make fire
- Camping is not allowed, not even in vehicles along the road
- The natural environment should not be changed



How can we integrate people?

Hunde mitführen / Pro	1	(5)
Wege verlassen / Abandon du	5	(6)
Mountainbiking / Vélo tout terrain	7	(1)
Campieren und Biwakieren / Camping et biv	3	(8)
Feuer machen / Feu	0	(0)
Wurzeln und Beeren sammeln / Ramassage de racines et baies	1	(0)
Grenzverletzung Jagd / Violation de la frontière de chasse	0	(0)
Tiere weiden lassen / Pacage d'animaux	1	(1)

DEN MARKIERTEN RASTPLATZ
NICHT VERLASSEN
RESPECTEZ LES LIMITES DE
LA PLACE DE REPOS

What offers the National Park it's guests?

- Undisturbed nature
- Unexpected encounters
- Overnight stay in the wilderness
- Guided excursions
- Offers for schools
- An app for everyone
- Stories for young and old
- A visitor centre



Natural processes



What offers the National Park it's guests?

- Undisturbed nature
- Unexpected encounters
- Overnight stay in the wilderness
- Guided excursions
- Offers for schools
- An app for everyone
- Stories for young and old
- A visitor centre
- Installations to current issues
- Answers where the questions arise
- Carefree encounters



Touristic revenue of the Swiss National Park

Gebiet, Methode	Gesamt	Hotellerie	Para- hotellerie	Tagesgäste
Untersuchungsgebiet				
Knaus	23'502'192	12'566'774	10'059'441	875'977
Küpfen	22'469'529	12'052'844	10'406'898	918'987

The tourists visiting the Swiss National Park each summer generate an annual revenue of 19.7 million CHF per year and sustain more than 200 jobs in the area.

Biosfera				
Knaus	3'774'859	2'603'117	1'078'839	
Küpfen	4'793'272	2'949'345	1'661'995	
effektiv*	5'201'848			

NORMAN BACKHAUS, CHRISTINE BUSER,
MARC BUTTICAZ, DANIELA JORIO & MATTHIAS SPEICH

Wirtschaftliche Auswirkungen
des Sommertourismus im
UNESCO Biosphärenreservat
Val Müstair Parc Naziunal



„Noss“ Parc

Preservation

Recreation

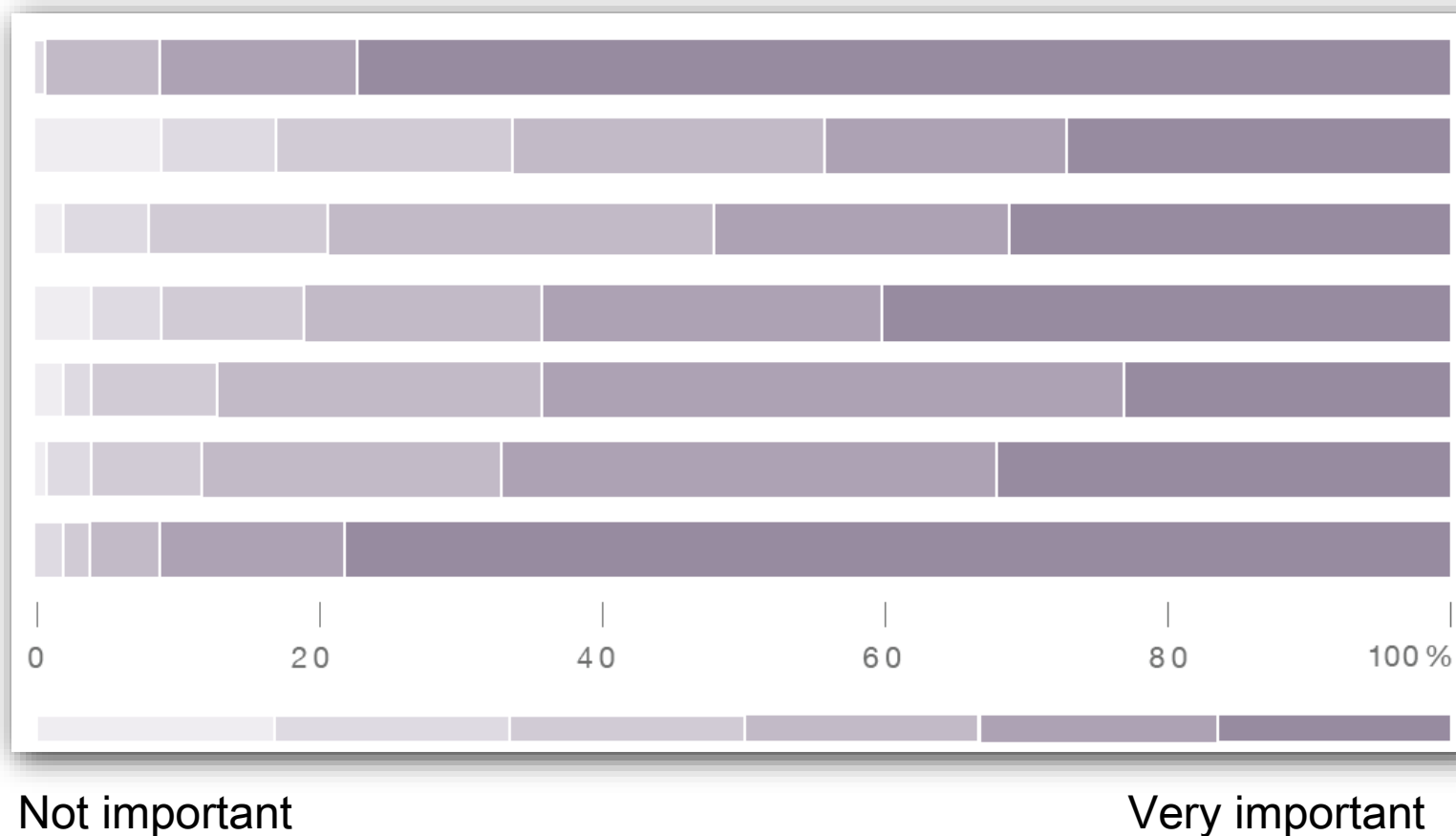
Employer

Tourism

Education

Science

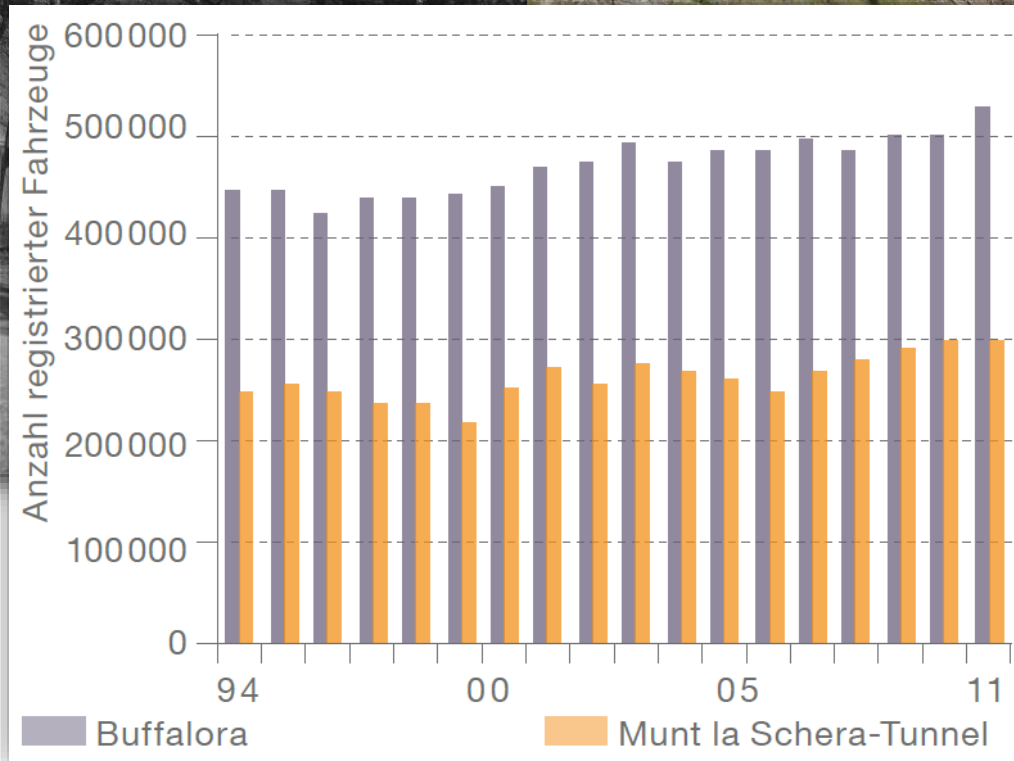
Protection of biodiversity



Backlashes in the national park history



1920



2012



Poaching from 1914 until 2016



~1944, Museo Vallivo Valfurva "Mario Testorelli,



The evolution of scientific knowledge

Czech National Parks, 21.9.2016

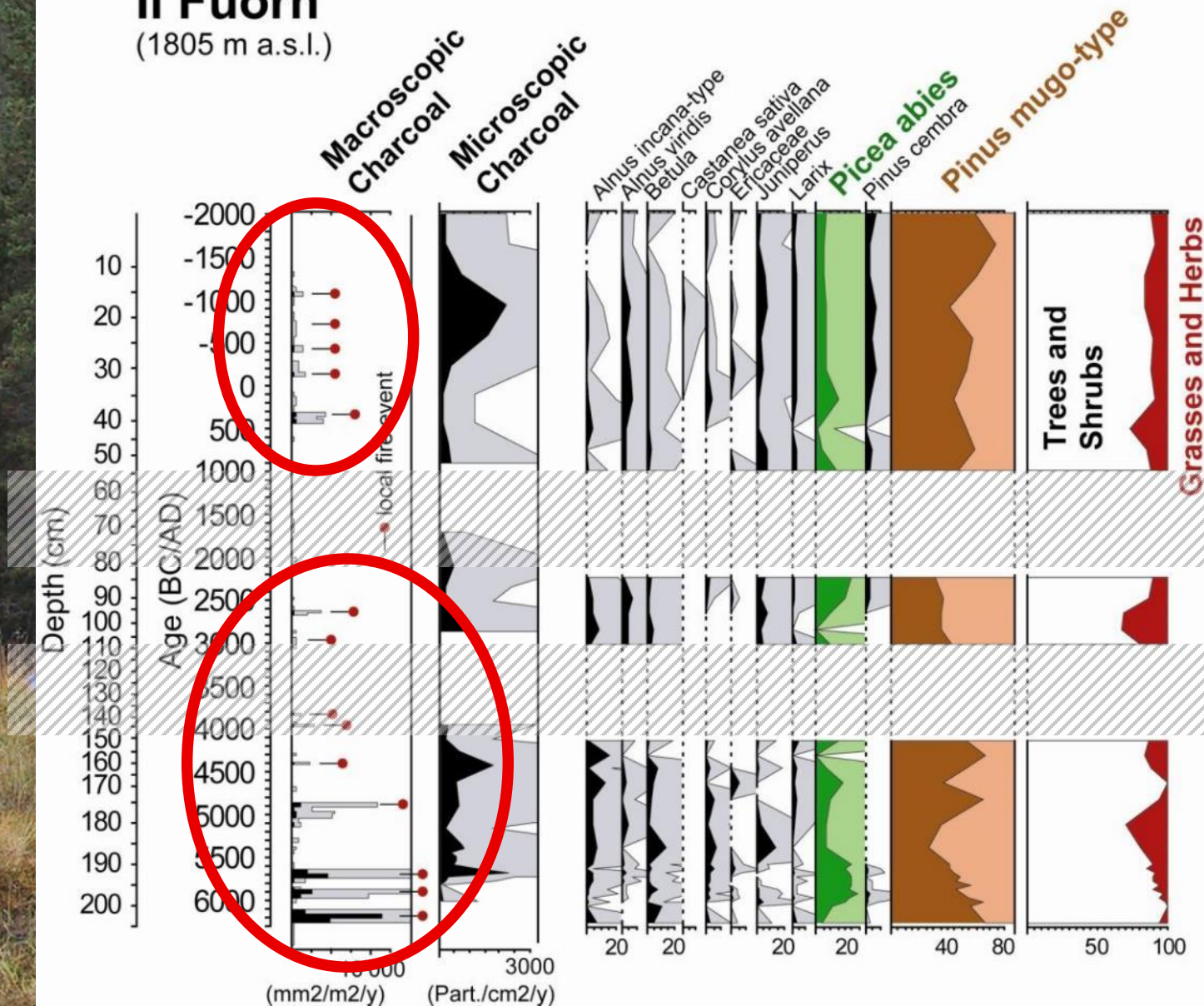
Toward a climax community

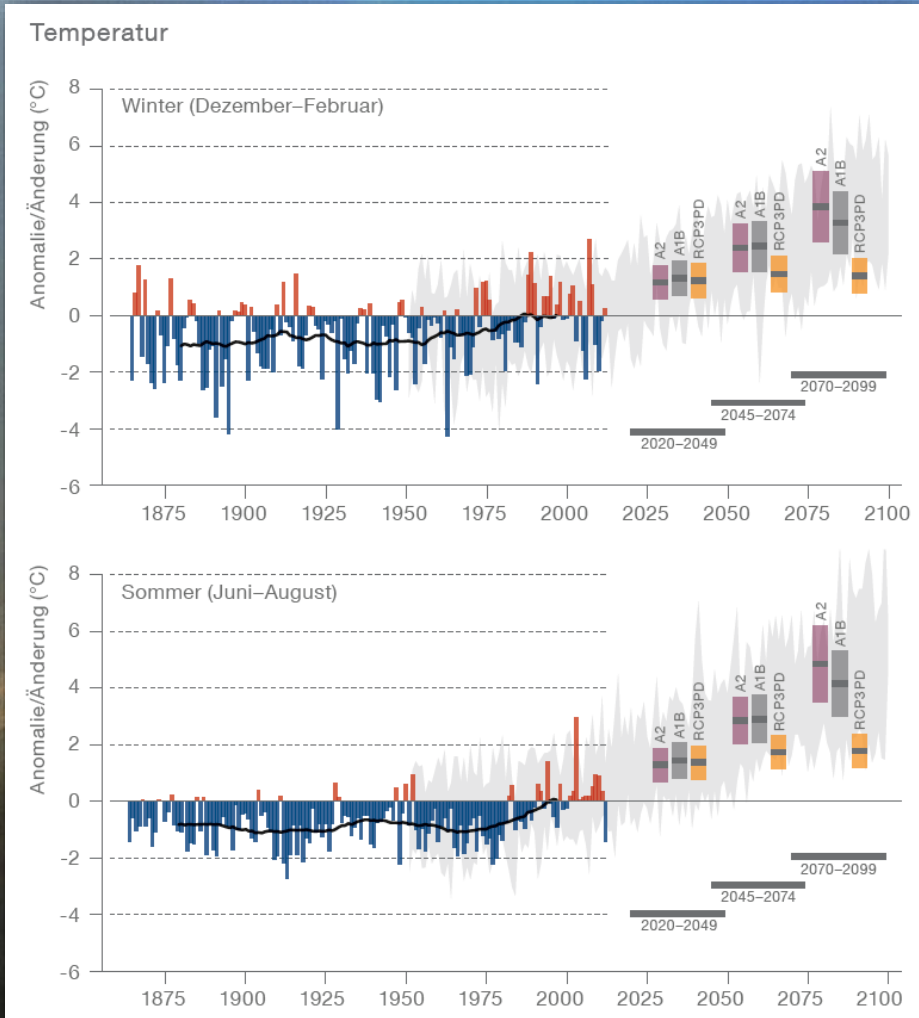


Change of forest species over millennia

Il Fuorn

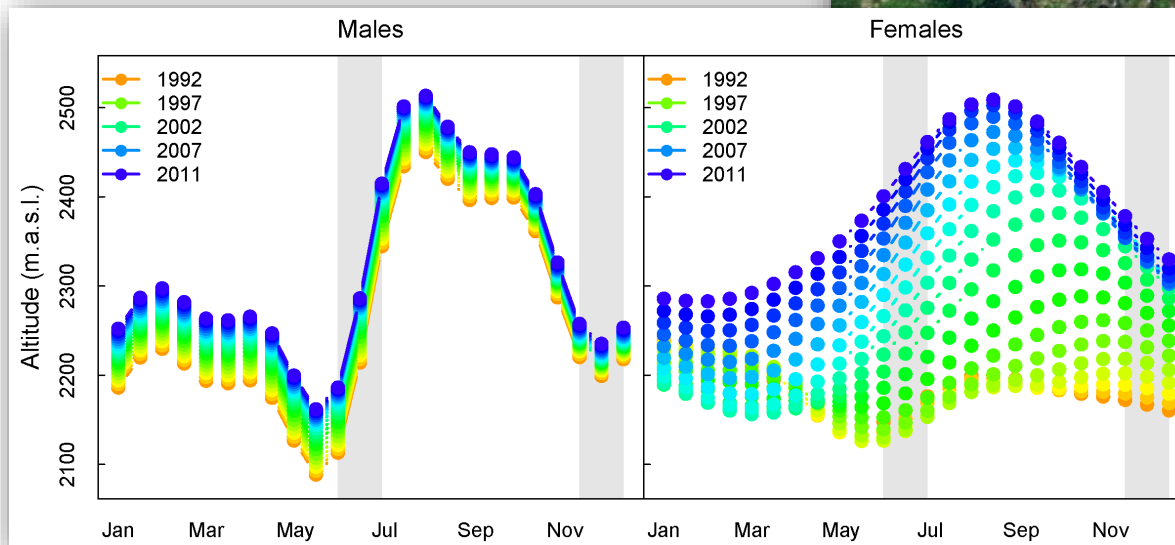
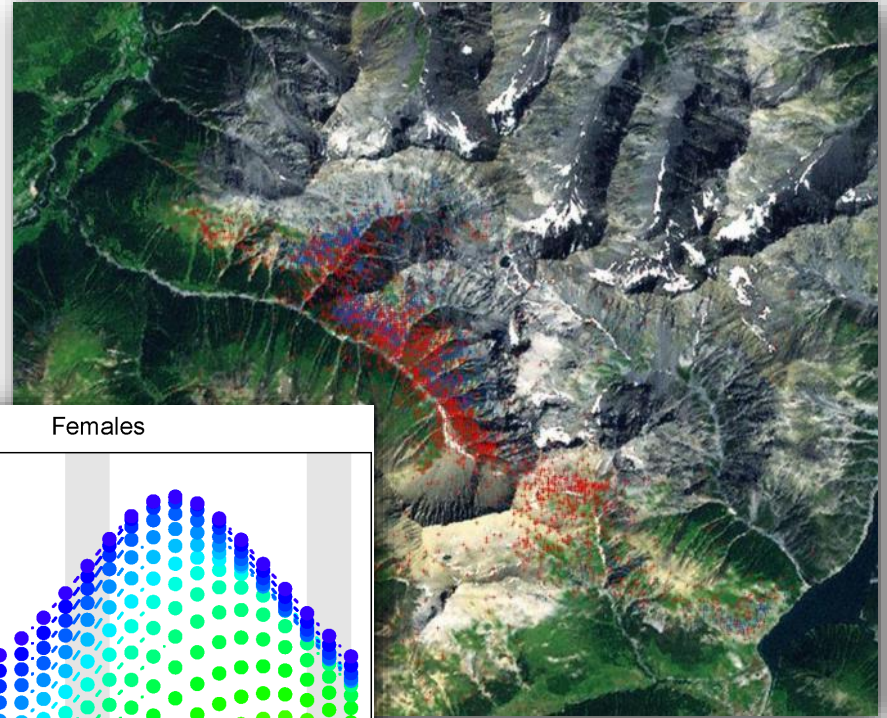
(1805 m a.s.l.)





A look to the future

The annual variation of the ibex height distribution

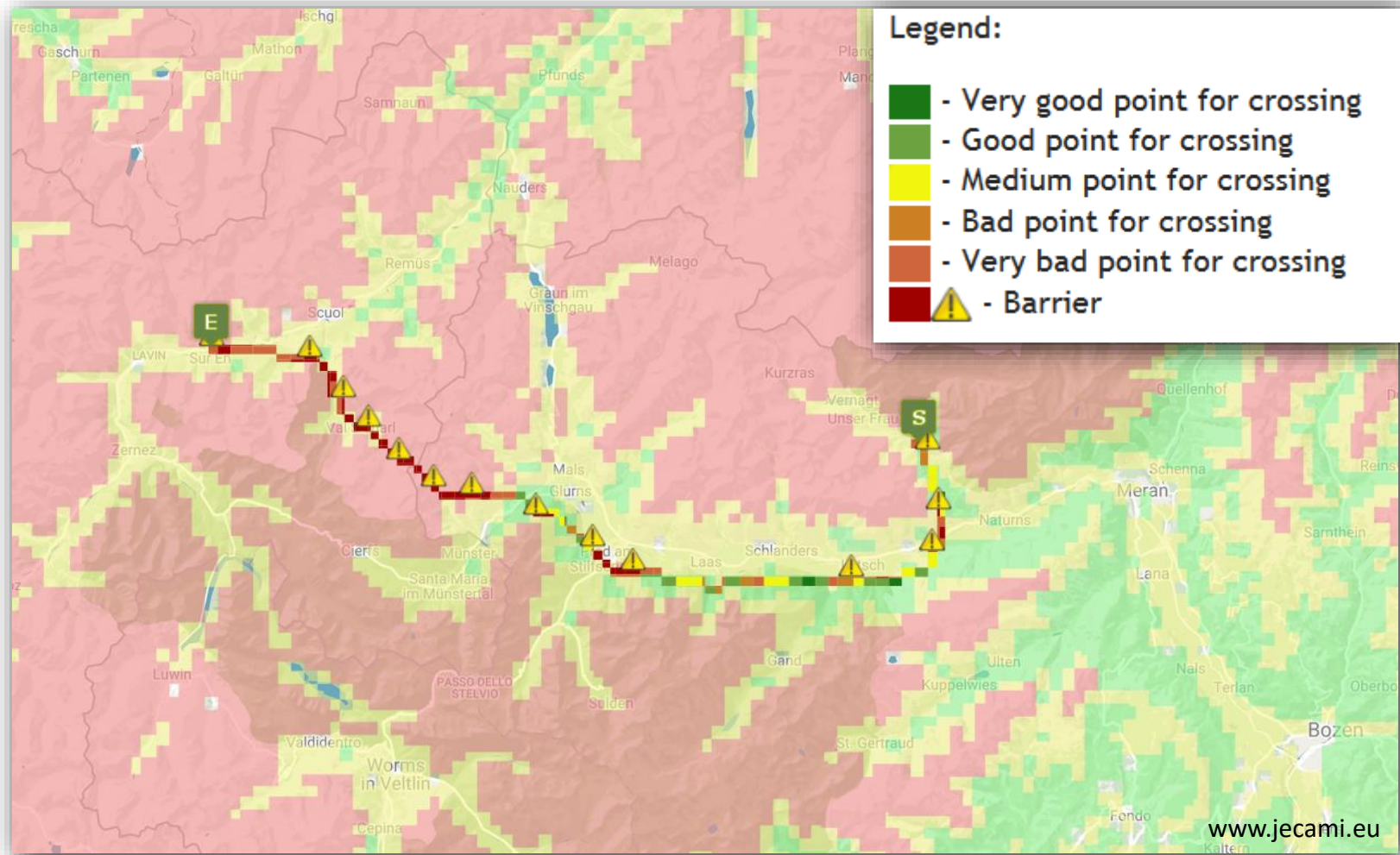


Hervindal et al., 2013

Hesitant repopulation



Model functional and structural connectivity

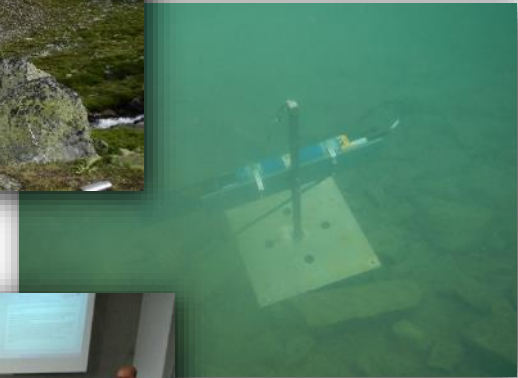


Selected goals of the «Strategy 2023»: Nature protection

- Ensure and increase natural processes within the park perimeter
 - Renew the biological sewage plant of the SNP owned mountain hut
 - Remove infrastructures in the park perimeter, which are not compulsory
 - Continue an active visitor management
- Promote natural processes, biodiversity and ecological connectivity
 - Cooperate with surrounding large protected areas in concrete projects (e.g. restore step stones for ecological connectivity, investigate migrations corridors of animals, monitor different key species in the national park region).
 - Cooperate within the perimeter of the Alpine Convention and the newly created EUSALP area

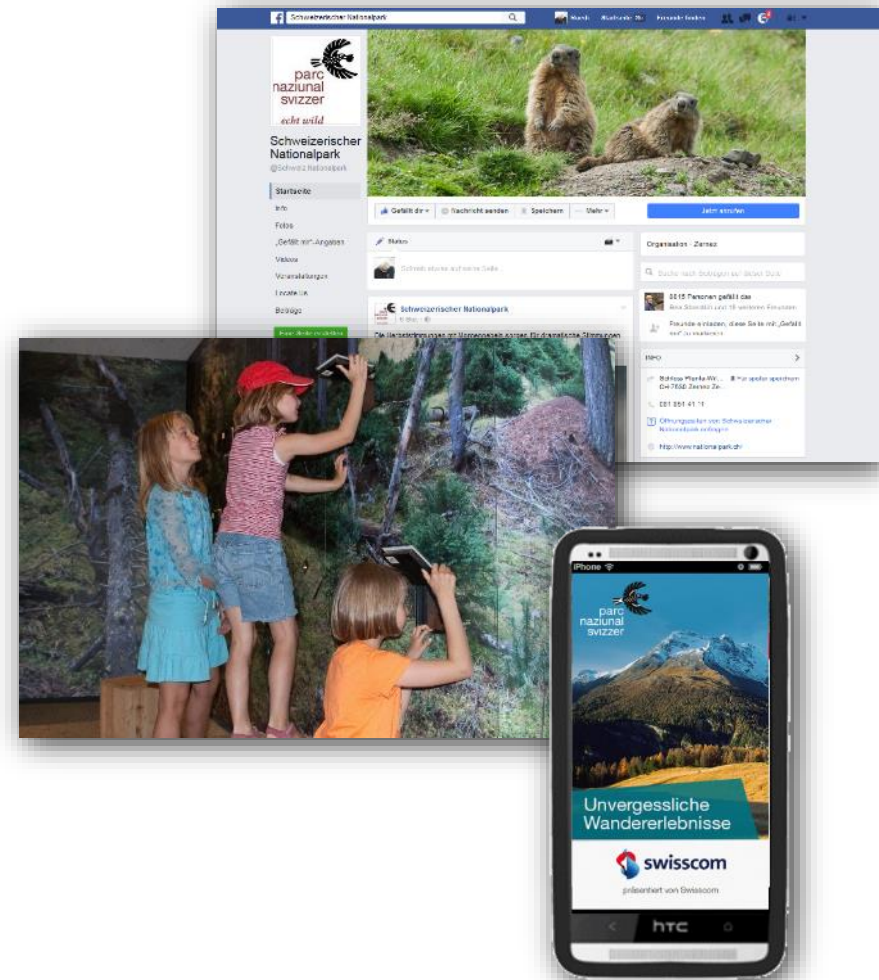
Goals in the strategy for 2023: Science and research

- Establish the SNP as widely accepted research centre on research on natural processes and mountain ecology
 - Enhance and automate existing long term monitoring systems
 - Work on state of the art research topics
- Clarify research methodologies for the future
 - Ecological experiments, drones



Goals in the strategy for 2023: PR and environmental education

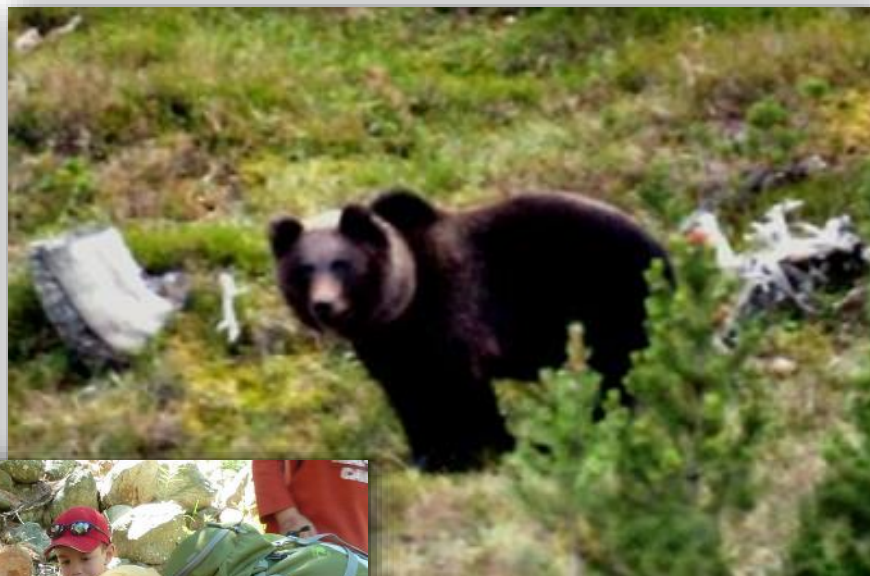
- Increase the public awareness on the positive effects of wilderness
 - Strengthen the role of the SNP as ambassador for wilderness
 - New media (e.g. Facebook, twitter et al.)
- Establish the SNP as national wide important educational centre for ecology
 - Create a new exhibition on wilderness
 - Enhance educational activities
 - Replace the info boards in the park by new medias (e. g. digital mobile guides)



Awareness rising for nature



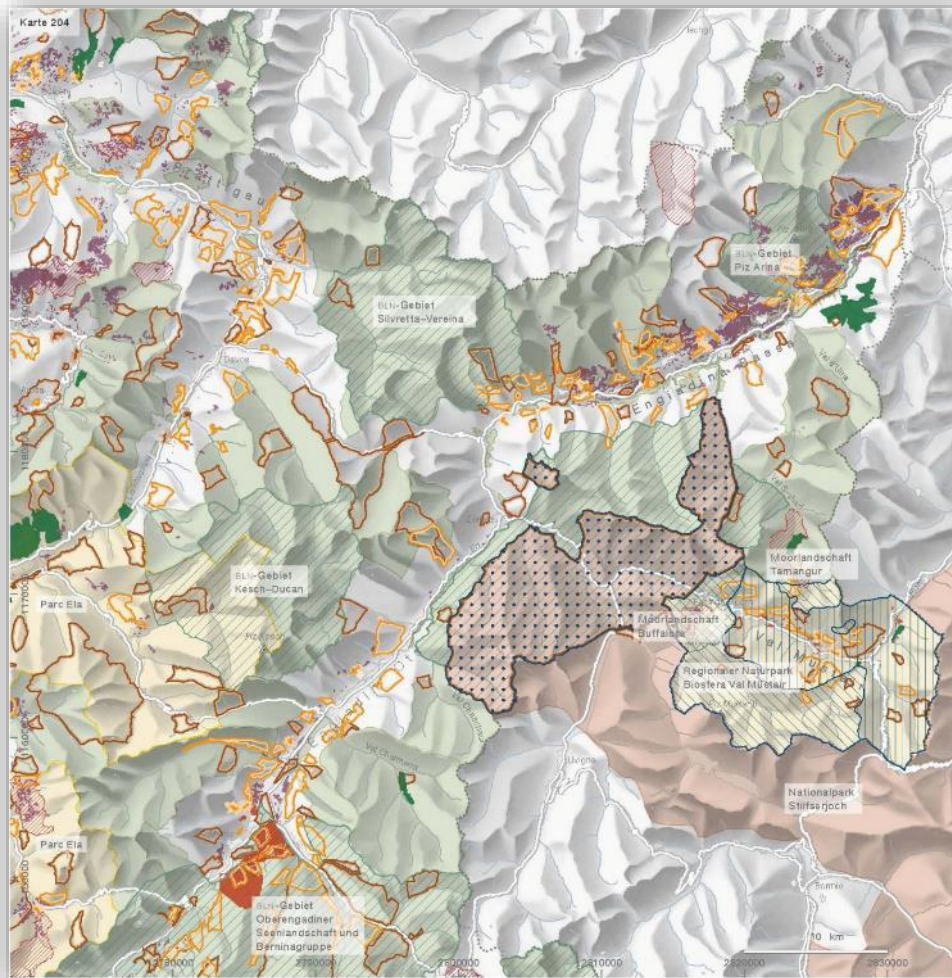
1904



2005



Environmental protection around the Swiss National Park 2016



Karte 204. Schutzgebiete in der Region des SNP

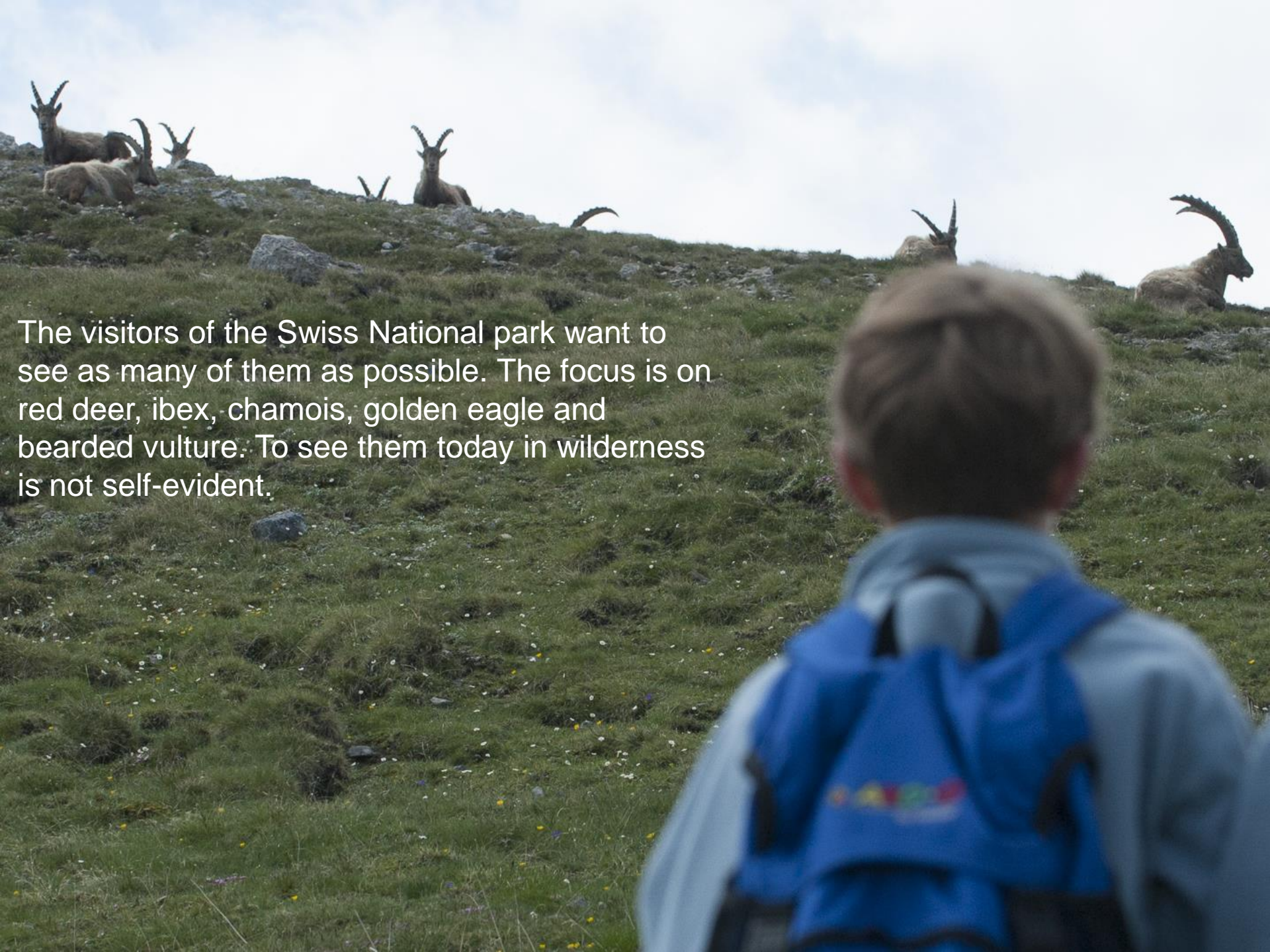
- Nationalpark
 - Regionaler Naturpark
- Biosphärenreservat Val Müstair Parc Naziunal**
- Kernzone
 - Pflegezone
 - Entwicklungszone
- Nationales Landschaftsschutzgebiet gemäss BLN
 - Kantonales Landschaftsschutzgebiet
 - Objekt des Bundesinventars der Moorlandschaften von besonderer Schönheit und von nationaler Bedeutung
 - Waldreservat
 - Wildschutzgebiet
 - Wildruhezone
 - Landschafts-/Naturschutzgebiet Pro Natura
 - Fläche unter Vertragsnaturschutz

Lessons learnt

- It needs courage, trust in the power of nature and good arguments toward the stakeholders to allow natural processes (wilderness). Scientific research on ecosystem structure and dynamics in the area is a key for acceptance. It ensures the information activities towards all stakeholders.
- The consistent and politically independent dedication of the strategic commission of the SNP in terms of the protection process was a key of success. But it needs a careful audit of new or possibly corrected ecological and socio-political knowledge. Sometimes, time has changed attitudes. On setbacks followed success stories.
- To have “only” one national park set in an high alpine area in Switzerland might be a disadvantage. But as a 100 years old IUCN 1a PA it serves as an ideal model worldwide for nature conversation in its strict sense.




Wildlife is a symbol of wilderness and intact nature.

A person with a blue backpack is seen from behind, looking out over a grassy mountain slope. In the distance, a herd of ibex with large, curved horns is resting on the hillside. The sky is overcast and grey. The person's backpack has a colorful logo on the back.

The visitors of the Swiss National park want to see as many of them as possible. The focus is on red deer, ibex, chamois, golden eagle and bearded vulture. To see them today in wilderness is not self-evident.

Ibex and bearded vultures were reintroduced during the last 100 years. The red deer came back by itself and profited from the undisturbed landscape of the park.



A photograph of a chamois standing in a forest. The chamois is the central focus, shown in profile facing left. It has a dark brown body with a lighter, almost white, face and neck. The background is a dense forest with sunlight filtering through the trees, creating a dappled light effect. The ground is covered with dry leaves and twigs. The overall mood is serene and natural.

Chamois and golden eagles have survived all the time. Under the protection of the SNP, the populations increased considerably. At least one research question remains: What happens, when brown bear, wolf and lynx will return?



Britta Allgöwer
Antonia Eisenhut
Stephan Imfeld
Heinrich Haller
Pius Hauenstein
Hannes Jenny
Maja Rapp
Peter Rey
Anita Risch
Christian Rixen
Anna Schweiger
Martin Schütz
Sonja Wipf
Samuel Wiesmann
u.v.a.

Fotos
Heinrich Haller
Hans Lozza
Andrea Millhäusler



Ruedi Haller
Chastè Planta-Wildenberg
7530 Zernez

rhaller@nationalpark.ch