

Situation of large carnivores in the Alps

Urs Breitenmoser, Christine Breitenmoser-Würsten, Anja Molinari-Jobin,
Paolo Molinari, Andreas Ryser, Mario Theus, Kristina Vogt,
Manuela von Arx, Jean-Marc Weber, Fridolin Zimmermann

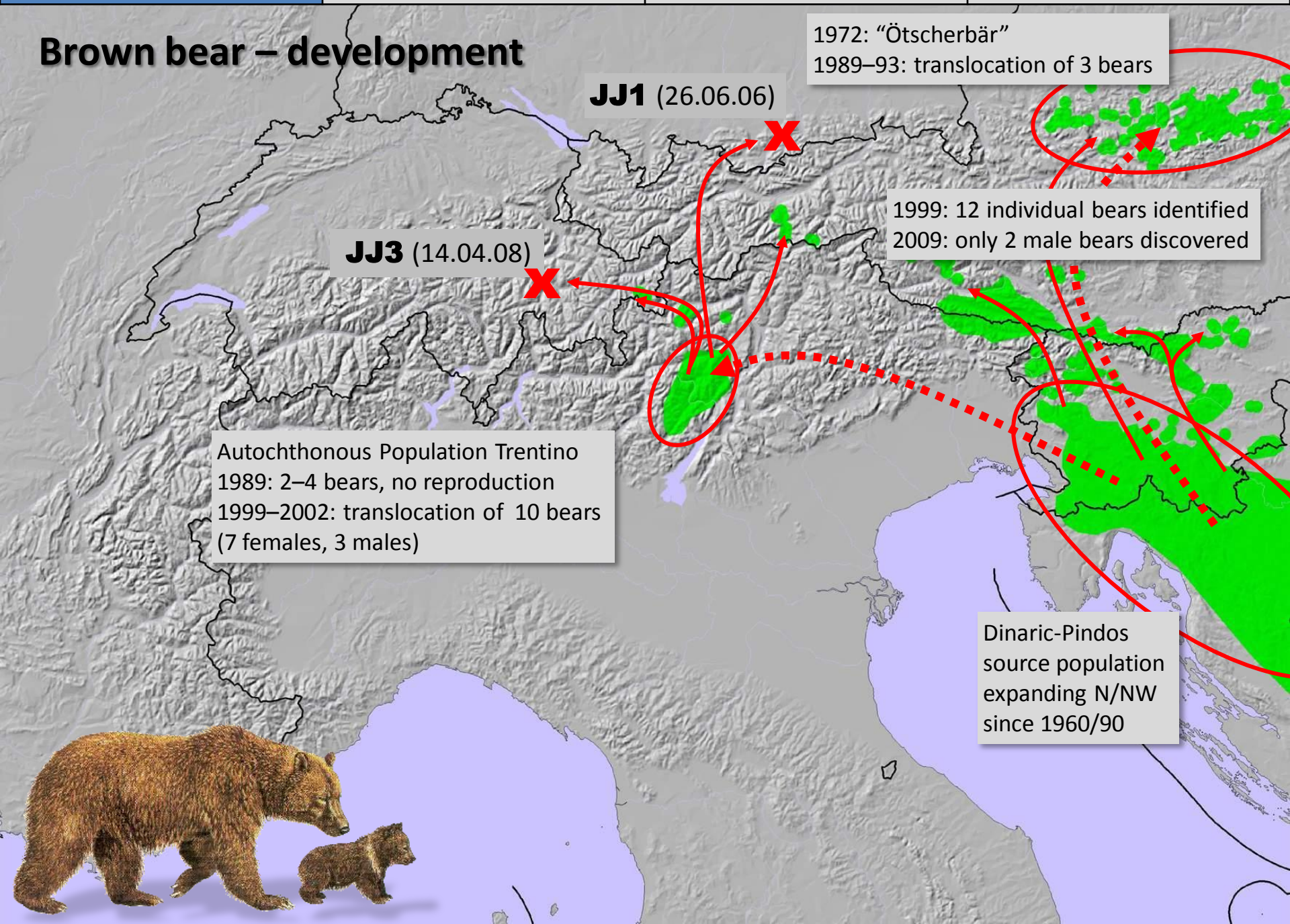


**KORA – Coordinated Research Projects for the
Conservation and Management of Carnivores**

Situation of large carnivores in the Alps

- 1.** Situation of brown bear, lynx and wolf in the Alps
- 2.** Outlook and challenges: What do we have to expect?
- 3.** Scientific programmes, organisation and cooperation
- 4.** Sources of information and references

Brown bear – development



1972: "Ötscherbär"
 1989–93: translocation of 3 bears

JJ1 (26.06.06)

1999: 12 individual bears identified
 2009: only 2 male bears discovered

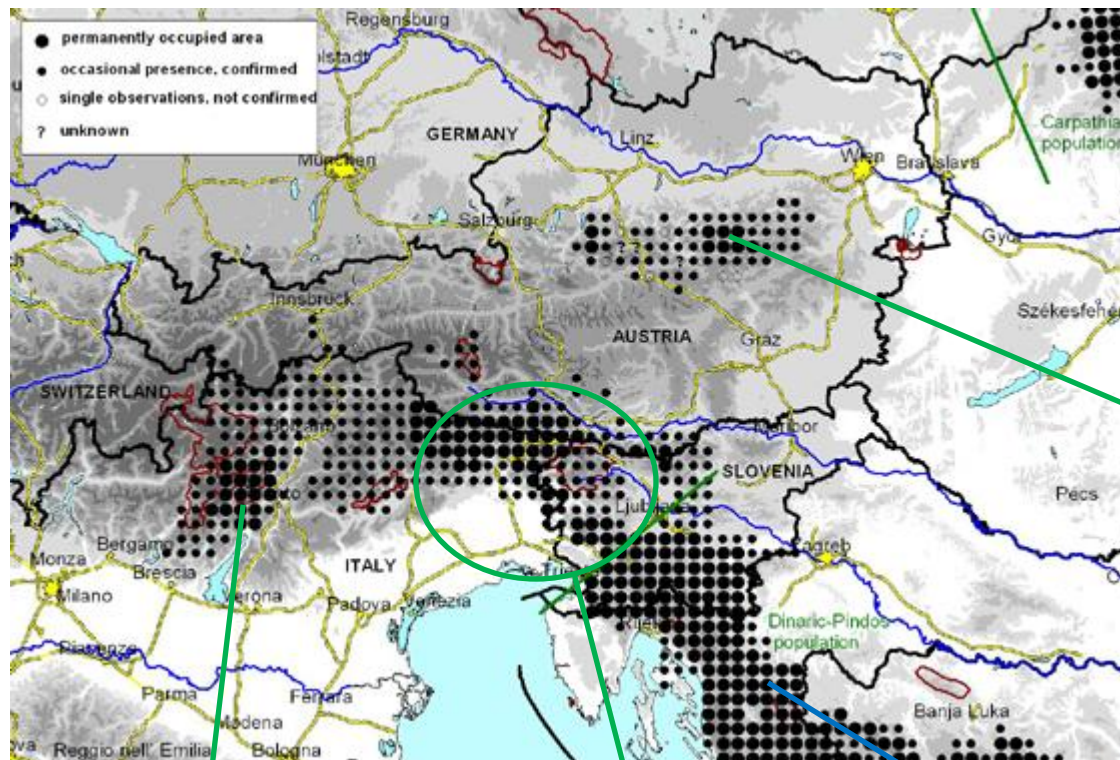
JJ3 (14.04.08)

Autochthonous Population Trentino
 1989: 2–4 bears, no reproduction
 1999–2002: translocation of 10 bears
 (7 females, 3 males)

Dinaric-Pindos
 source population
 expanding N/NW
 since 1960/90



Brown bear – status and distribution



Bear Online Information System for Europe
Distribution 2005

<http://www.kora.ch/sp-ois>

Austria 2009:
 only 2 males discovered
 (genetic monitoring)

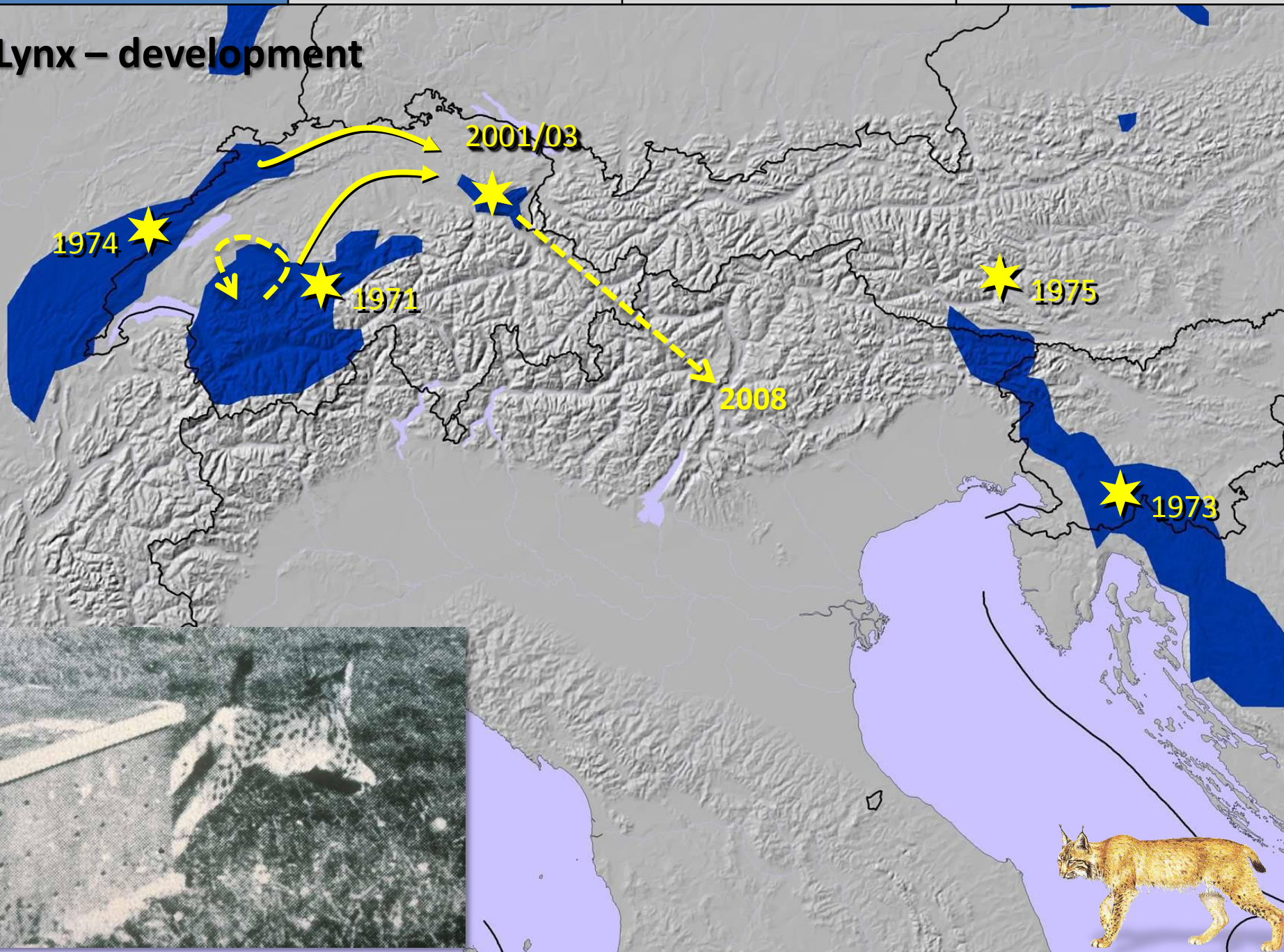
Trentino, 2008:
 27 bears
 (genetic monitoring)

Triangle SLO-A-I, 2009:
 12–15 bears
 (expert estimation &
 genetic monitoring)

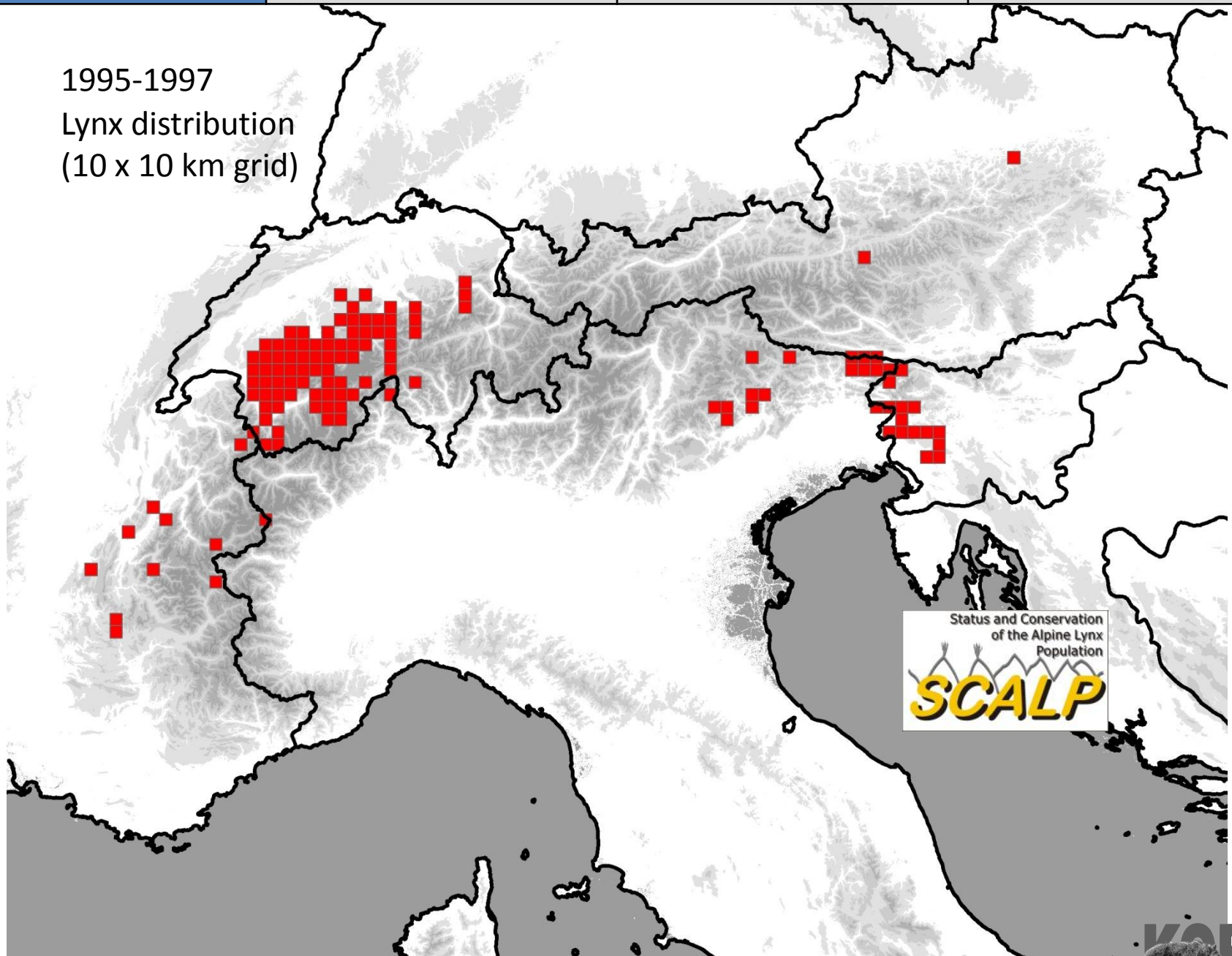
Pindos-Dinaric population
 about 2'800 bears in 2005
 (expert estimation &
 genetic monitoring)

→ 41–44 bears in the Alps

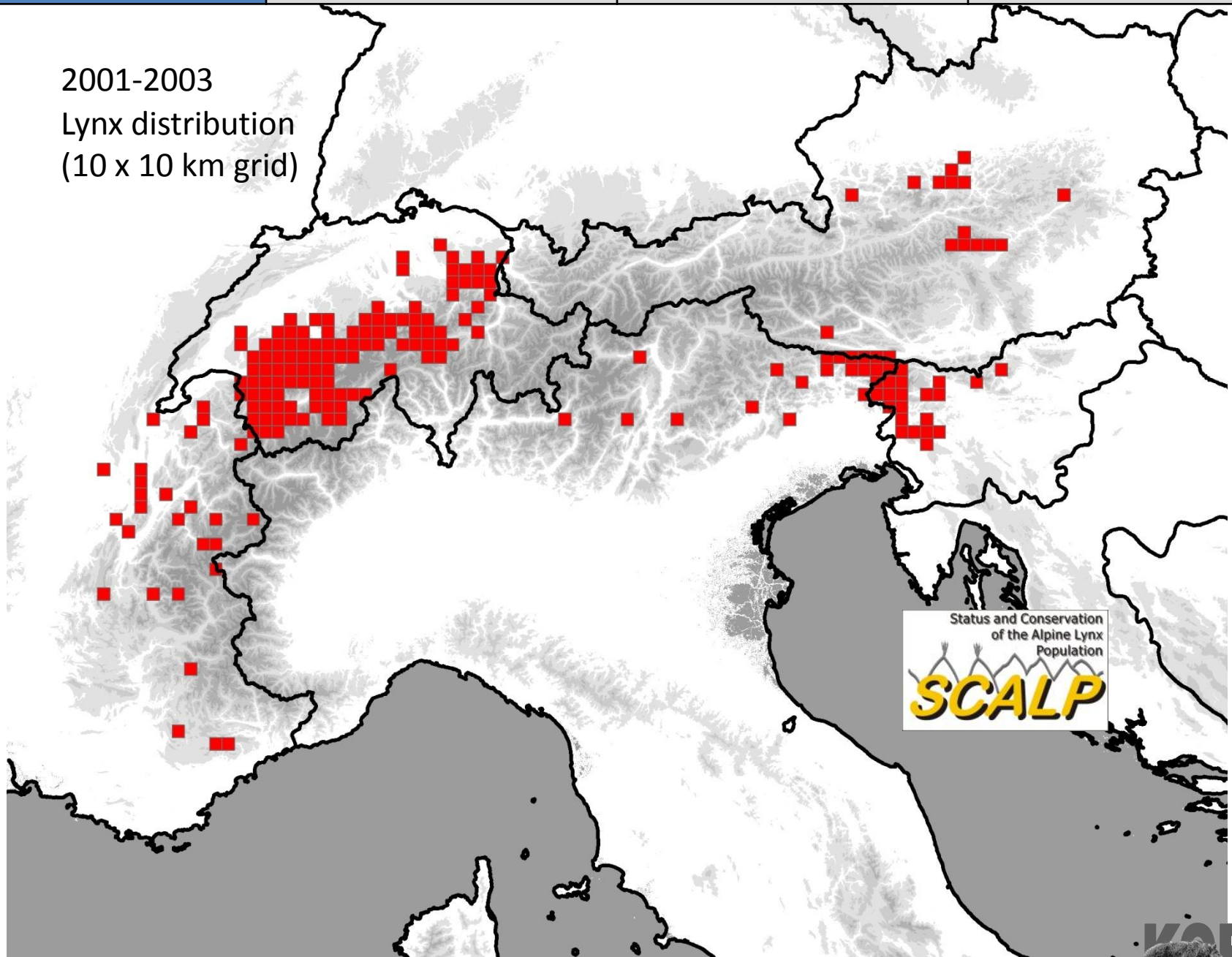
Lynx – development



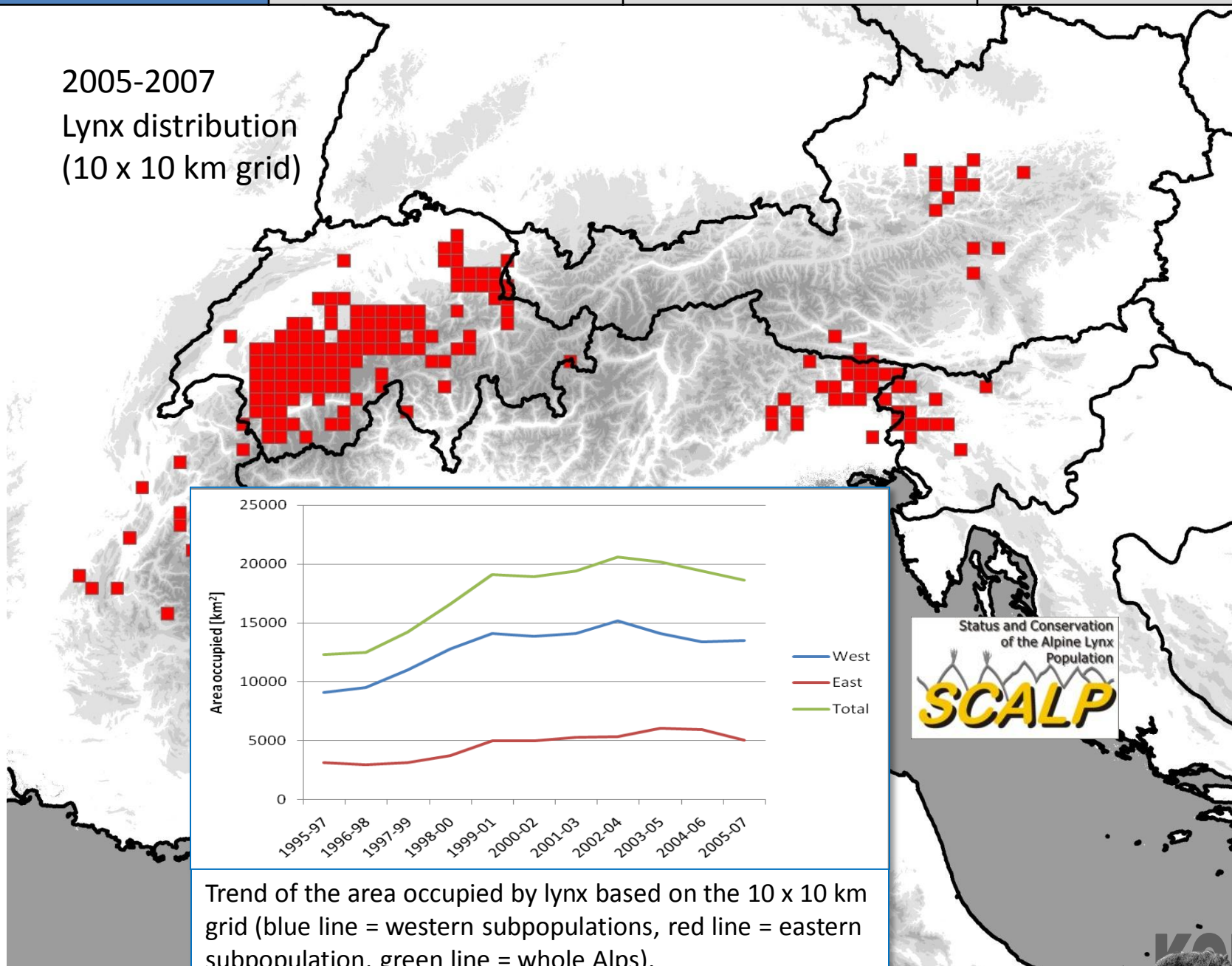
1995-1997
Lynx distribution
(10 x 10 km grid)



2001-2003
Lynx distribution
(10 x 10 km grid)

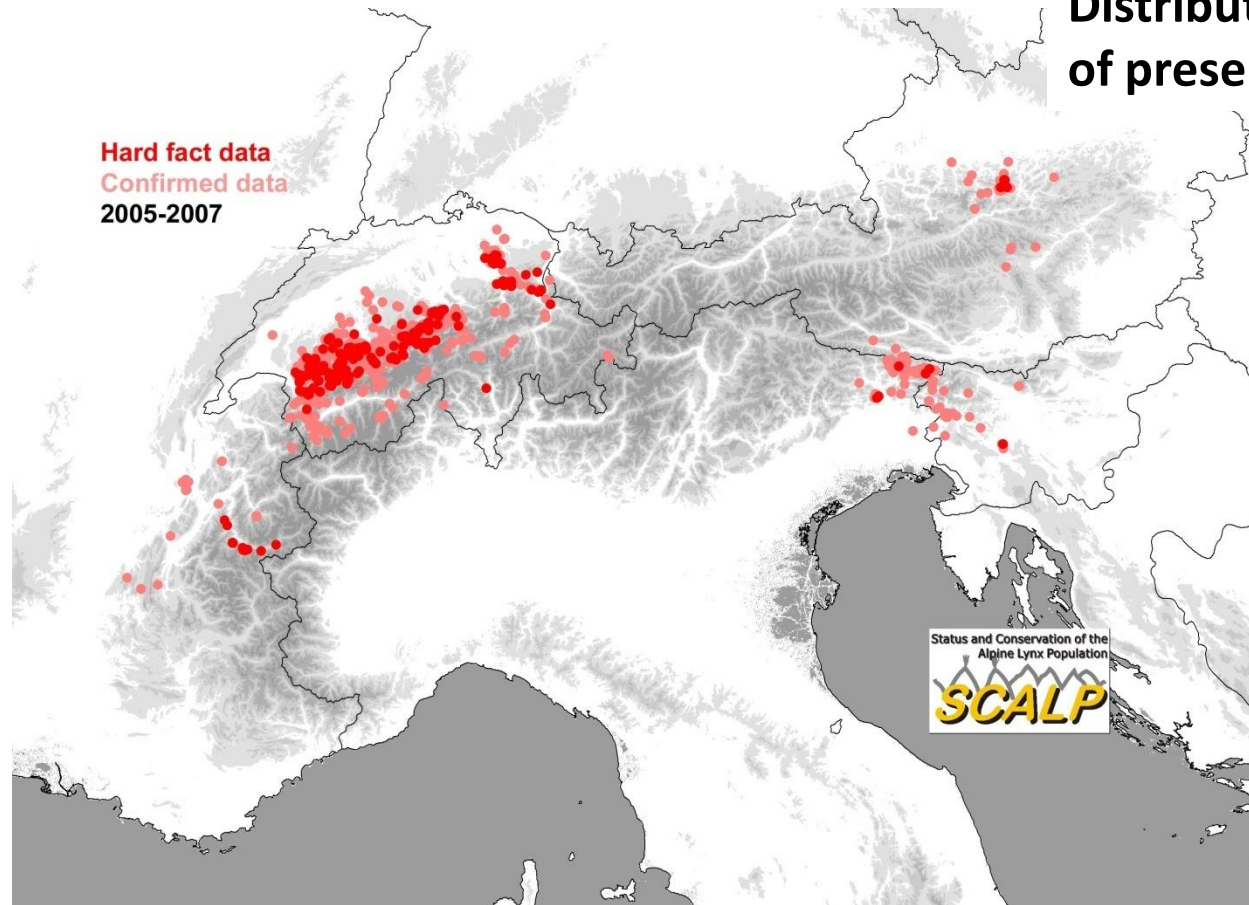


2005-2007
Lynx distribution
(10 x 10 km grid)



Trend of the area occupied by lynx based on the 10 x 10 km grid (blue line = western subpopulations, red line = eastern subpopulation, green line = whole Alps).

Lynx – status and distribution

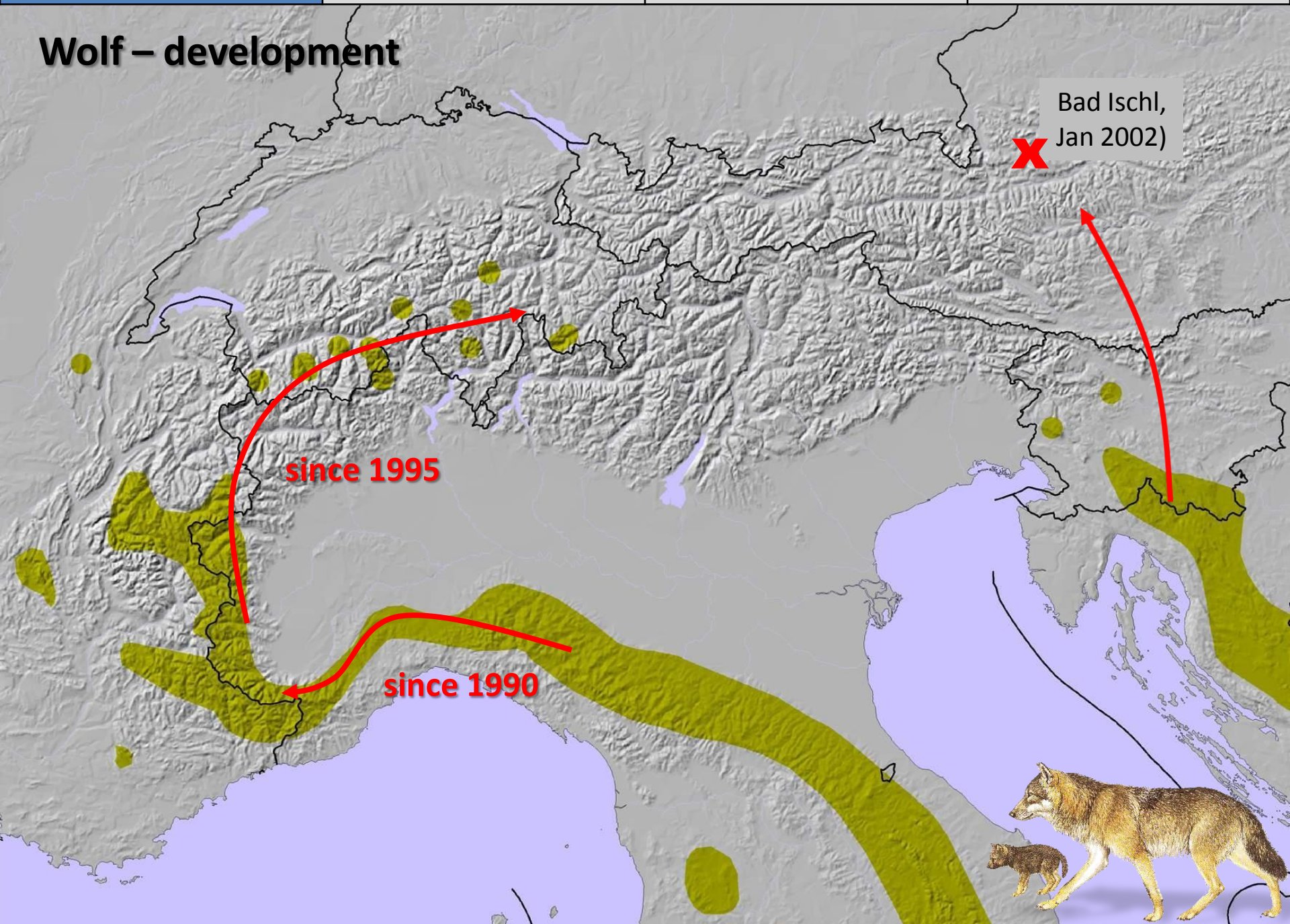


Distribution of confirmed lynx signs of presence 2005-2007 in the Alps

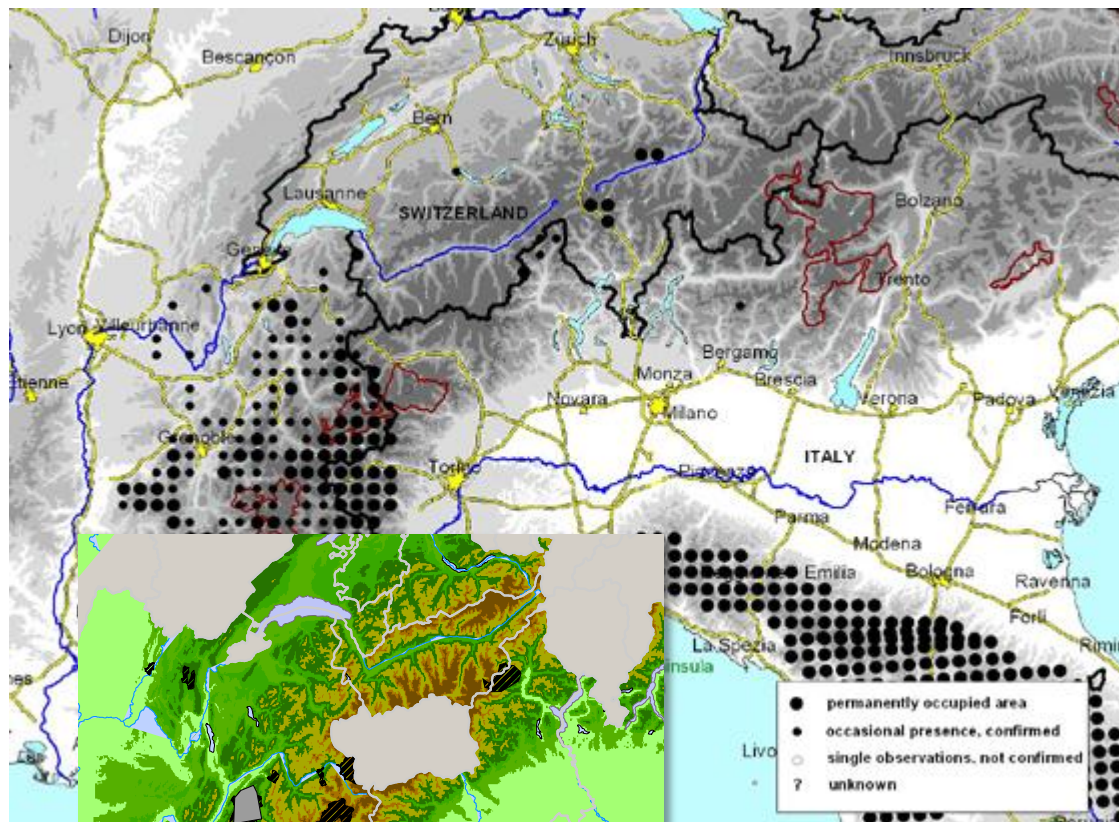
Estimated resident lynx:

| | |
|---------------|---------------|
| France | 15 |
| Italy: | 10-15 |
| Switzerland | 50-80 |
| Liechtenstein | 0-1 |
| Germany | 0 |
| Austria | 5-10 |
| Slovenia | 4-8 |
| Alps | 80-130 |

Wolf – development



Wolf – status and distribution

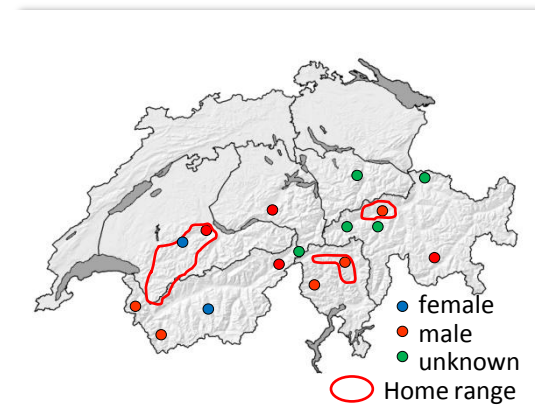
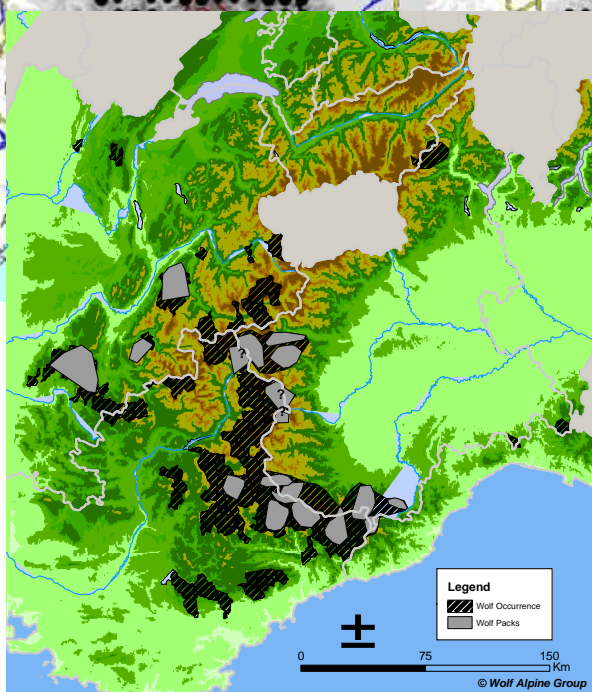


Wolf Online Information System for Europe
Distribution 2005

<http://www.kora.ch/sp-ois>

Estimated wolves 2005:

| | |
|-------------|----------------|
| France | 61-130 |
| Italy: | ~50 |
| Switzerland | 3 |
| Alps | 114-183 |



Situation in 2004/05:

in 2008/09:

F: 120-140 wolves in 25 packs

~33 packs

I: ~50 wolves in 14 packs

~15-20 ind.

CH: ~3



Outlook and challenges: What do we have to expect?





1. Situation

2. Outlook

3. Programmes

4. References



Böser Brief ins Bundeshaus



BB kämpft für Luchs «Tito»





Situation:

- Favourable ecological conditions (habitat, prey abundance)
- High fragmentation (local clusters, subpopulations)

Conflicts:

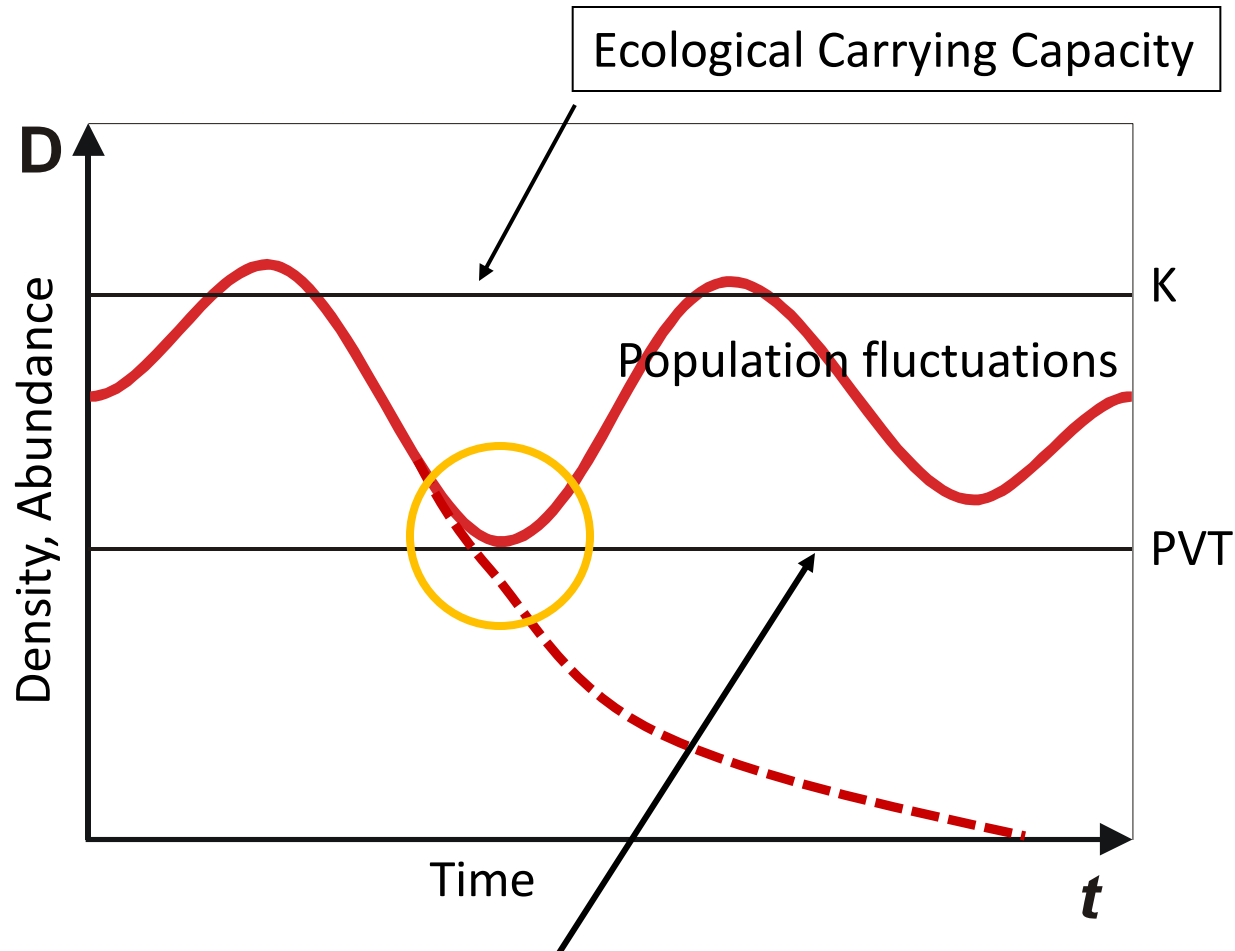
- Competition to hunters
- Losses in free-ranging livestock
- Fear of people

Challenges:

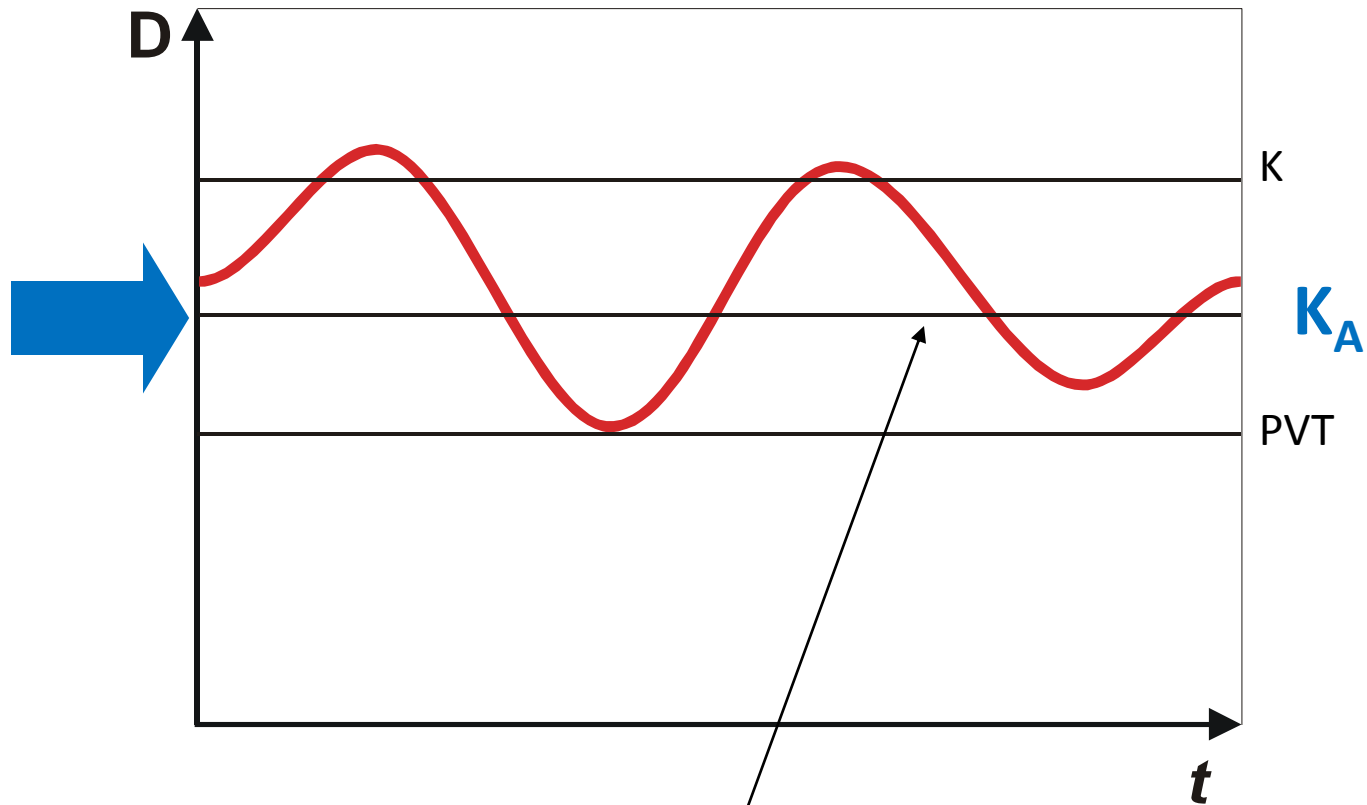
- Wildlife management (harvest vs forestry) not adapted to LC presence
- Countries/regions with different priorities

Question:

- *How can we maintain viable populations with an accepted level of local abundance?*



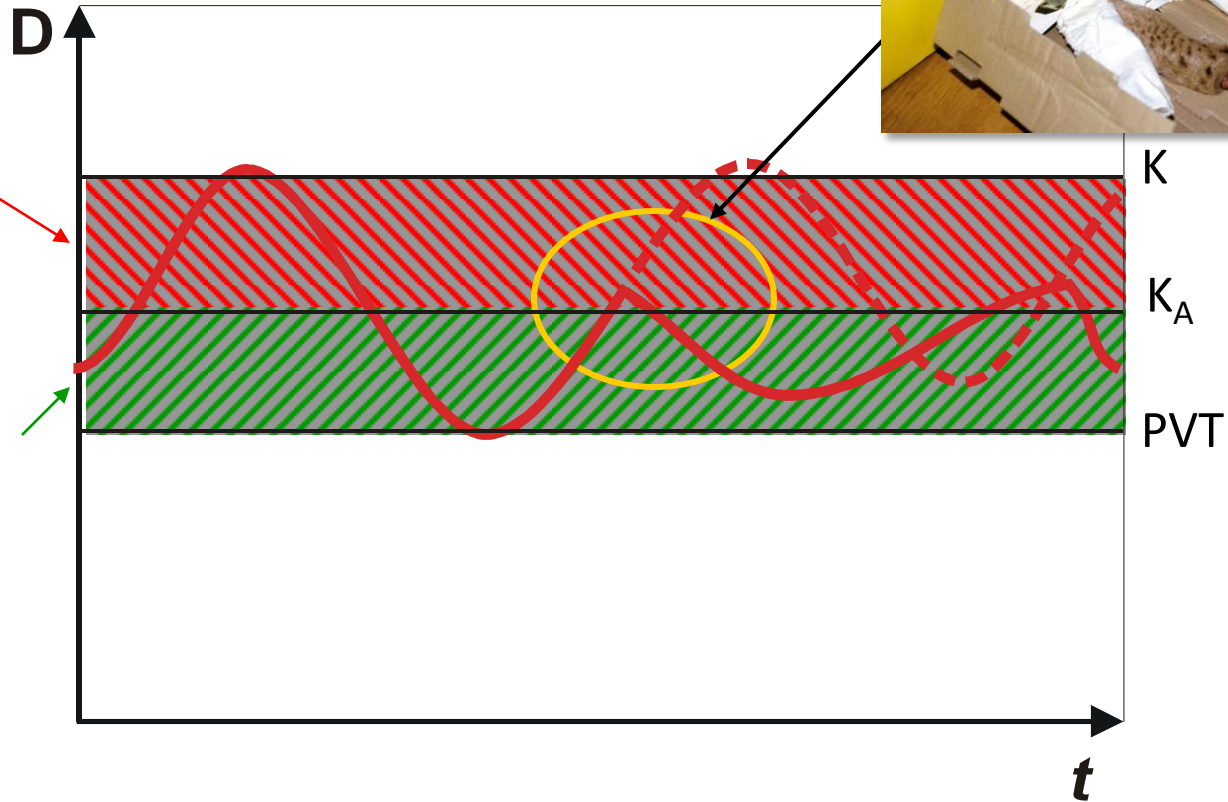
Population Viability Threshold (demographic, genetic)



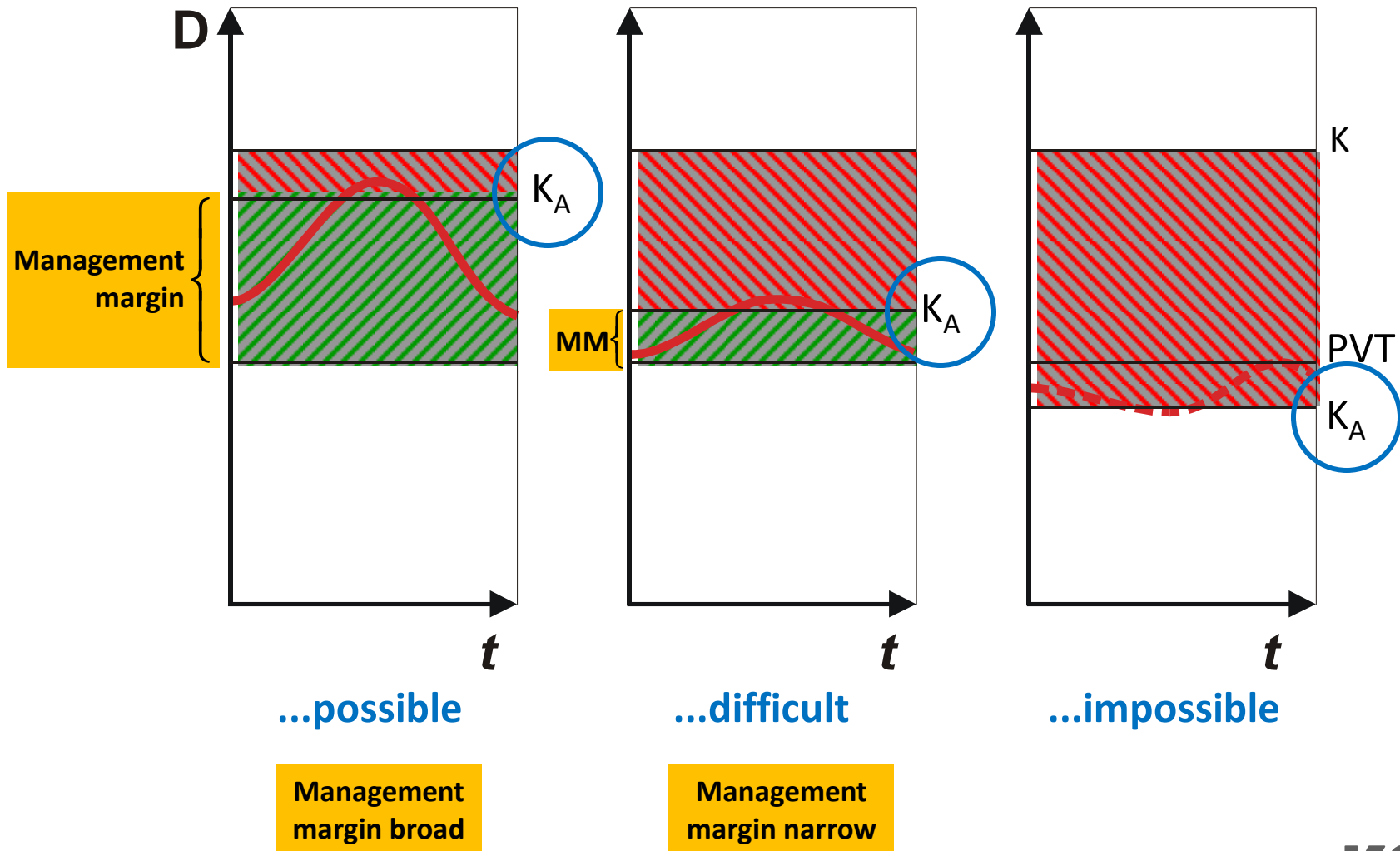
Threshold of acceptance (Social Carrying Capacity)

Conflict zone

Coexistence zone

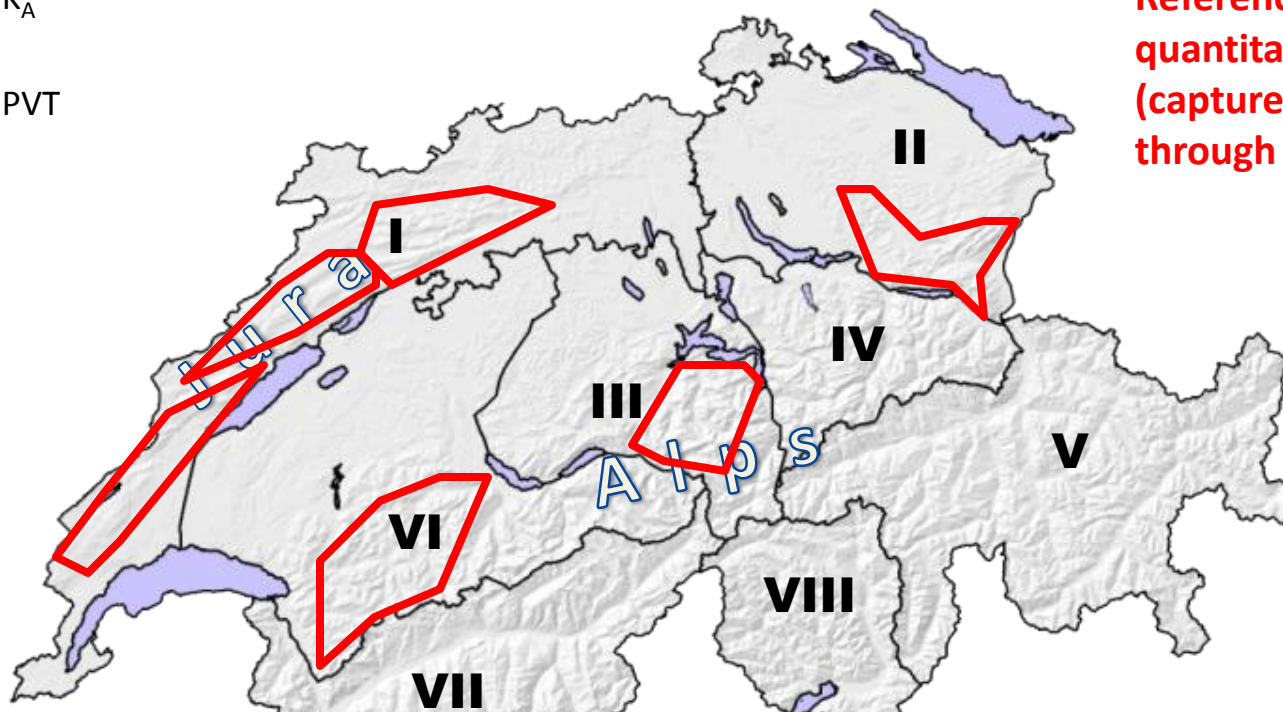
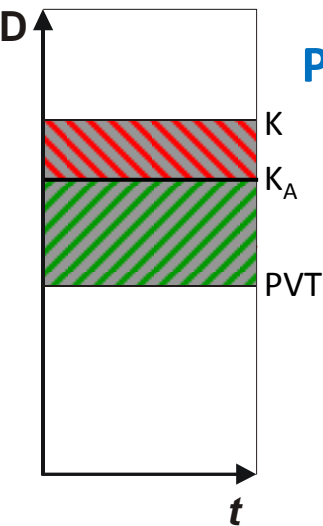


Coexistence is...



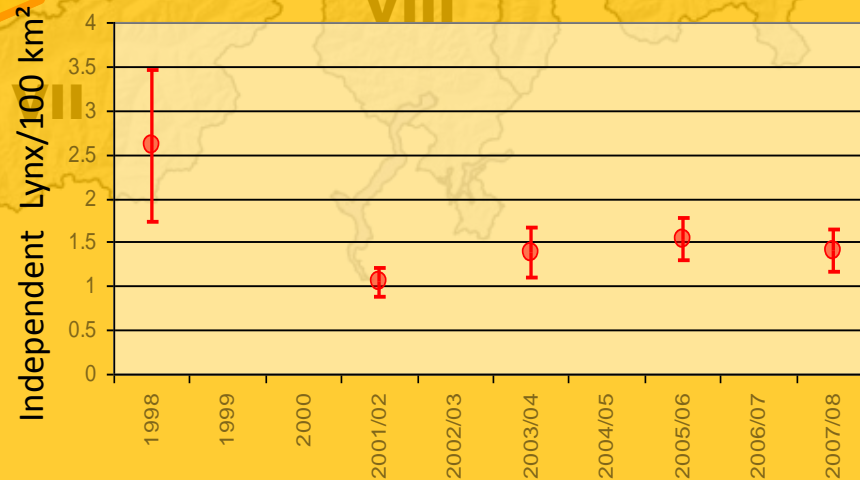
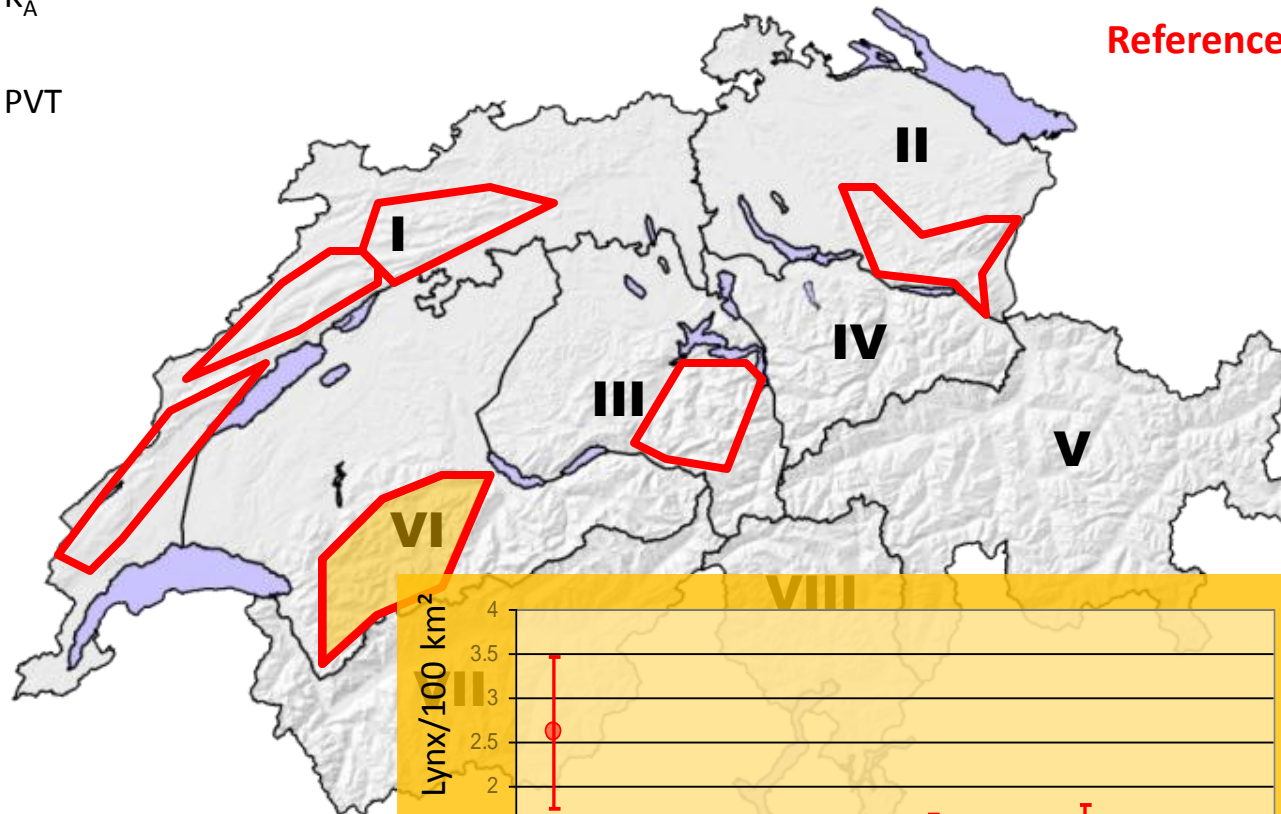
Practical example – lynx in NW Alps

Reference Areas for quantitative monitoring (capture-recapture through camera-trapping)

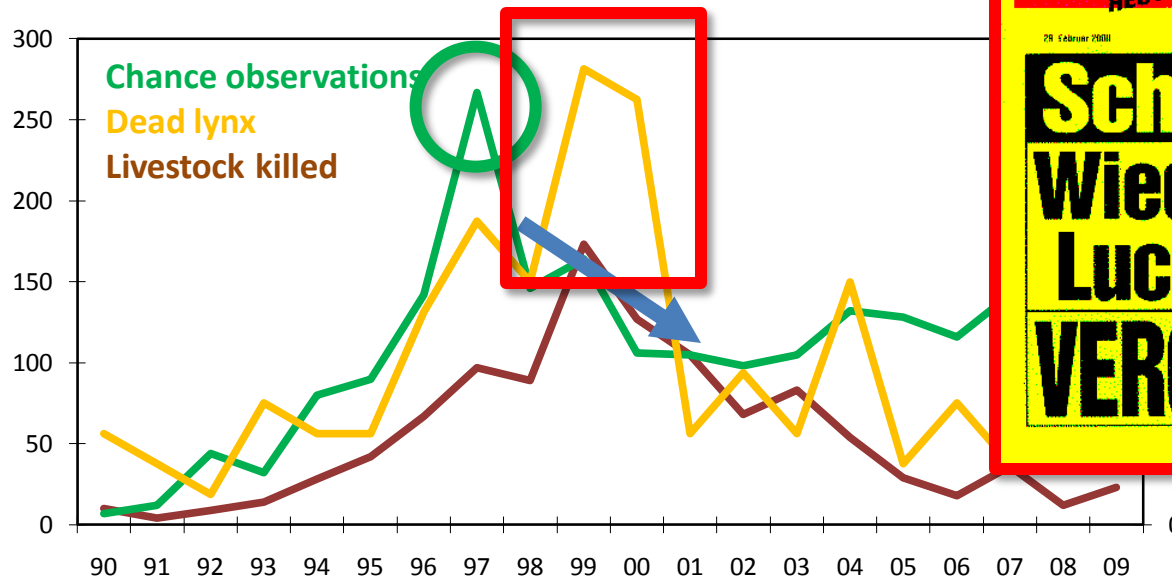
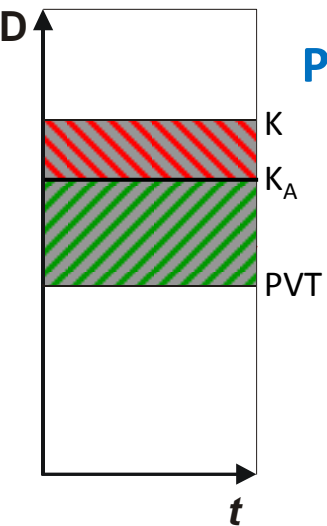


Practical example – lynx in NW Alps (VI)

Reference Areas



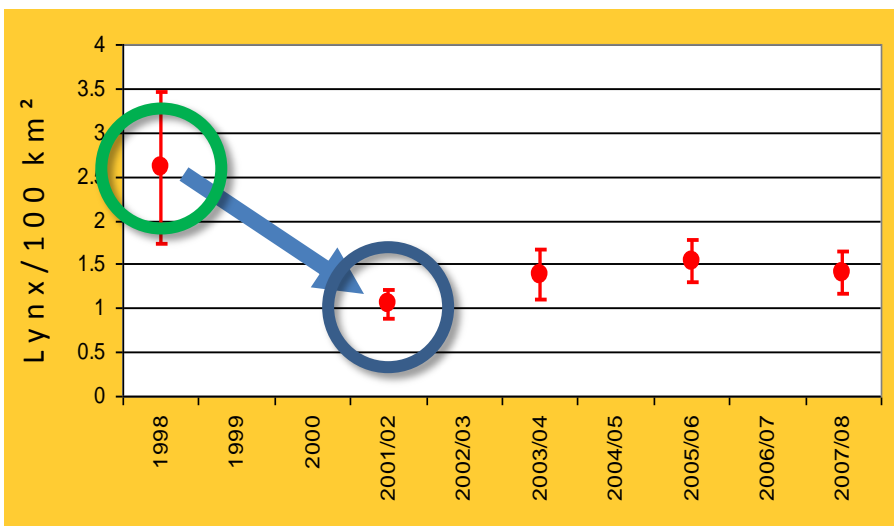
Practical example – lynx in NW Alps



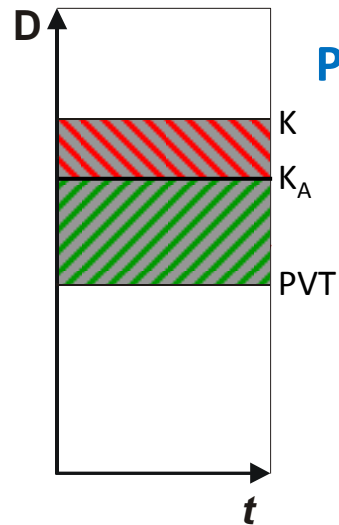
Population peak:
~2.6 indep. lx/100 km²

Illegal killings:
≥2.0 indep. lx/100 km²

Population minimum:
~0.9 – 1.1 indep. lx/100 km²



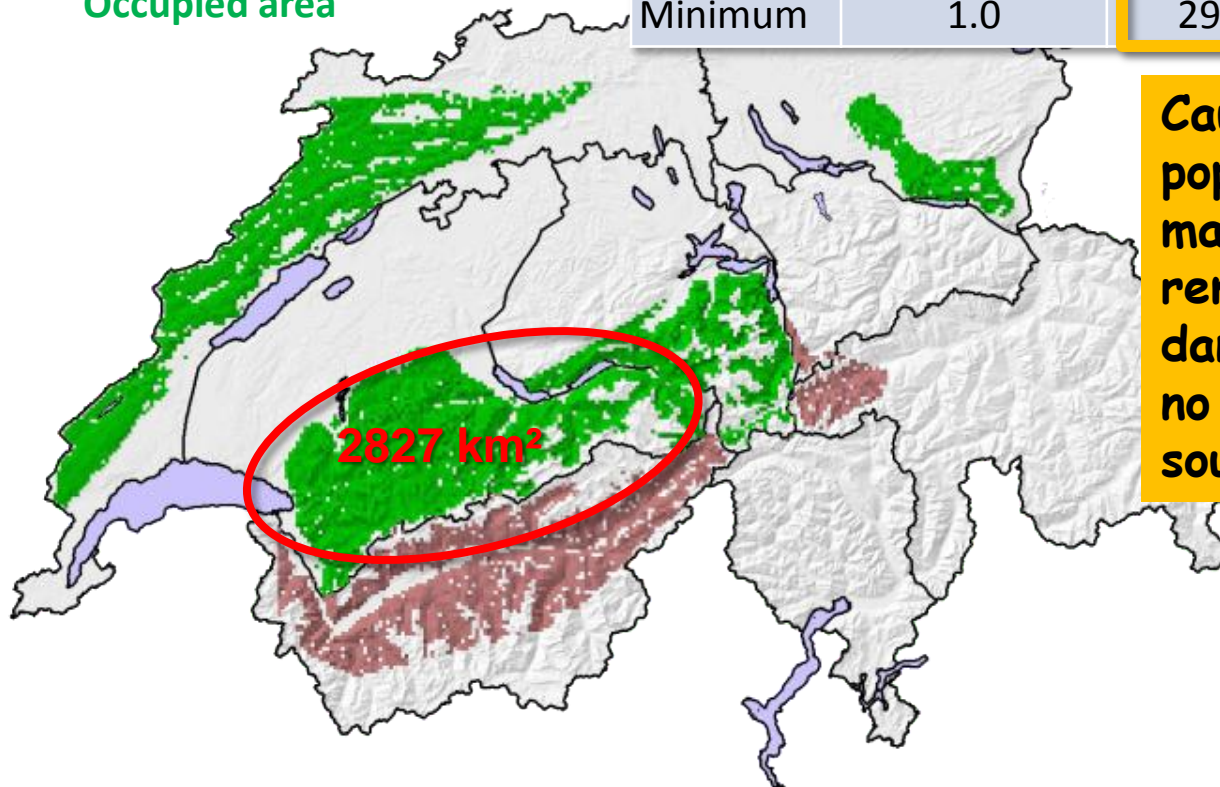
Practical example – lynx in NW Alps



Occupied area

| | Density [ind/100km ²] | Indep. Lynx |
|------------|--------------------------------------|----------------|
| Peak | 2.6 | 74 |
| “Eruption” | 2.0 | 57 |
| Minimum | 1.0 | 29 |

} MM



Caution: Isolated population - management by removing animals dangerous when no adjacent source population

Coexistence with large carnivores:

- There is no general consensus in our society about the acceptance of large carnivores
- Disagreement between interest groups reflect underlying conflicts and differences in value system
- Compromise: Viable (meta)populations with “low” local abundance
 - Consistent management of LC populations over a large area (metapopulation)
 - Consensus and cooperation between countries and regions



Guidelines for Population Level Management Plans for Large Carnivores



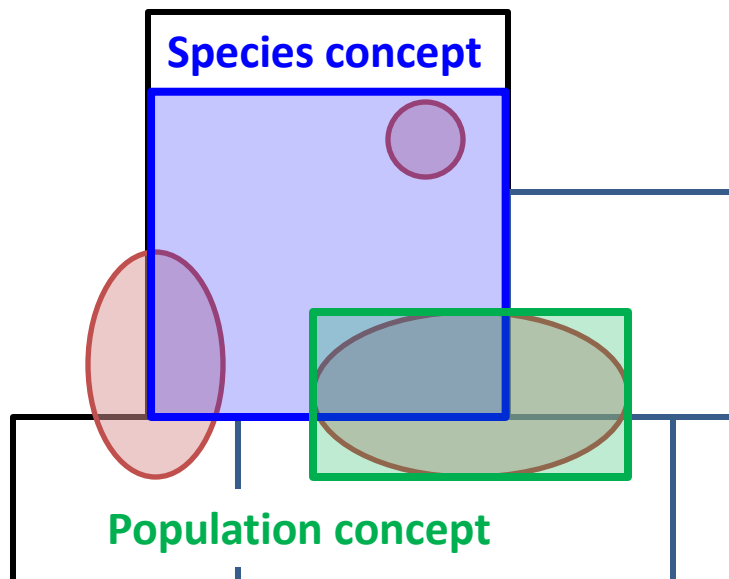
Prepared by Large Carnivore Initiative for Europe
c/o Istituto di Ecologia Applicata, May 2007
Via Cremona 71 - IT 00161 Rome

Final Draft 7th May 2007



A possible way forward...

- Populations should *in principle* be allowed to expand over all suitable habitats.
- Limitation of expansion/abundance is possible if minimum requirements are fulfilled (viability, “favourable conservation status”).
- Limits(abundance, expansion) need to consider conflicts of land use (hunting, agriculture, local acceptance).
- Fulfilment of minimum requirements is easier on (meta)population level than on country level.

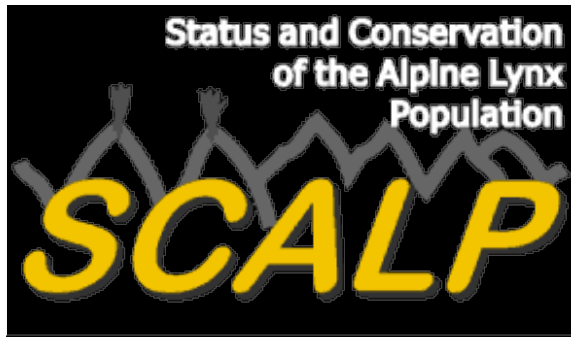


- Countries with shared populations share also responsibility and...
- ...allow merging of isolated populations,
- ...avoid development of “black holes”,
- ...prevent (per country) drop below threshold of viability (“favourable conservation status”).

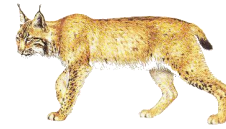
Scientific programmes, organisations and cooperation



Alpine large carnivore working groups



Coordinator: Anja Molinari-Jobin
Italy: Paolo Molinari
France: Eric Marboutin
Switzerland: Urs & Christine Breitenmoser
Germany: Manfred Wölfel, Sybille Wölfel
Liechtenstein: Michael Fasel
Austria: Thomas Huber, Christian Fuxjäger
Slovenia: Iztok Koren, Ivan Kos, Mateja Blažič



www.kora.ch



Alpine Wolf Workshop

1st AWW – Briançon, France, 5-6 November 2001
 2nd AWW – Boudevilliers, Switzerland, 17–18 March 2003
 3rd AWW – Entracque, Italy, July 2004
 4th AWW – St. Martin de Vesubie, France, November 2005
 5th AWW – La Fouly, Switzerland, 2–3 October 2007



Brown Bear in the Alps

I^o International Workshop, Trento, Italy, July 2006
 II^o International Workshop, Chur (CH), 4–5 September 2006
 III^o International Workshop, Triesenberg (FL) 14–16 Mai 2007
 IV^o International Workshop, Munich, Germany, 28–30 April 2008

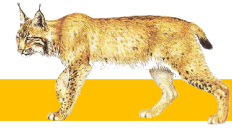


→ Platform large mammals in the Alps „Wildlife and Society“



Large carnivore projects in the Alps

Lynx:



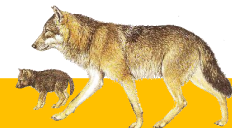
Alps National monitoring programmes

Brown bear:



| | | | |
|------------|---|---|---------------------------|
| I | PACOBACE (AP brown bear C-E Alps) | P. Genovesi (INFS), C. Groff (Trento) | 3 years |
| CH | Projekt Bär (Coexistence) | P. Molinari/KORA | 2005-2009 |
| CH | Bärenprojekt URSINA | J. Schönenberger/WWF Schweiz | |
| SLO | LIFE Co-op project: Principles for the establishment of an Alpine brown bear metapopulation | M. Jonozovič, SLO Forest Service K. Jerina, Biotech. Fac./Forest Dpt. | 01.01.2005- 31.12.2005 |
| SLO | Interreg III a/Phare CBC Italy-Slovenia | M. Jonozovič, K. Jerina | 2002-2007 |
| A | Schutz und Management des Braunbären in Österreich (LIFE2002NAT/A/8519REV) | WWF Österreich http://www.wwf.at/de/braunbaer/ | 2002-2005 |

Wolf:



| | | | |
|----------|------------------------|------------|--------------|
| I | Progetto Lupo Piemonte | F. Marucco | 1999 ongoing |
|----------|------------------------|------------|--------------|

Sources of information and references

Sharing of data and availability of up-to-date information must still be improved...!



Online Information for Large Carnivores in Europe:



[ELOIS - Eurasian Lynx Online Information System for Europe](#) (KORA 2004)



[WISE - Wolverine Information System for Europe](#) (KORA & NINA 2007)




[Bear Online Information System for Europe](#) (LCIE 2007)



[Wolf Online Information System for Europe](#) (LCIE 2007)

<http://www.kora.ch/sp-ois/>

MALME - Metapopulation Approach for large Mammals in Europe - Case Study Alps












| Information & News | Species | Landuse & Management | Policy | Library | Maps | Institutions & Statistics | Help Impressum |
|--------------------|---------|----------------------|--------|---------|------|---------------------------|----------------|
| Information & News | Species | Landuse & Management | Policy | Library | Maps | Institutions & Statistics | Help Impressum |

Species: Large Carnivores and Herbivores

| | | | | | | | | |
|------|------|------|---------|------|---------|----------|----------|-----------|
| bear | lynx | wolf | chamois | ibex | mouflon | red deer | roe deer | wild boar |
|------|------|------|---------|------|---------|----------|----------|-----------|

Species

-  [Brown bear – *Ursus arctos* – Braunbär – Ours brun – Orso bruno – Medved](#)
-  [Chamois – *Rupicapra rupicapra* – Gämse – Chamois – Camoscio – Kamzík vrchovský](#)
-  [Ibex – *Capra ibex* – Steinbock – Bouquetin – Stambecco – Kozorog](#)
-  [Lynx – *Lynx lynx* – Luchs – Lynx – Lince – Ris](#)
-  [Red deer – *Cervus elaphus* – Rothirsch – Cerf – Cervo nobile – Navadni jelen](#)
-  [Roe deer – *Capreolus capreolus* – Reh – Chevreuil – Capriolo – Srna](#)
-  [Wolf – *Canis lupus* – Wolf – Loup – Lupo – Volk](#)
-  [Wild boar – *Sus scrofa* – Wildschwein – Sanglier – Cinghiale – Divja svinja](#)
-  [Mouflon – *Ovis gmelini musimon* – Mufflon – Mouflon – Mufflone – Muflon](#)

for large Mammals in Europe - Case Study Alps



| Information & News | Species | Landuse & Management | Policy | Library | Maps | Institutions & Statistics | Help Impressum |
|--------------------|---------|----------------------|--------|---------|------|---------------------------|----------------|
| Information & News | Species | Landuse & Management | Policy | Library | Maps | Institutions & Statistics | Help Impressum |

Species: Large Carnivores and Herbivores

| | | | | | | | | |
|------|------|------|---------|------|---------|----------|----------|-----------|
| bear | lynx | wolf | chamois | ibex | mouflon | red deer | roe deer | wild boar |
|------|------|------|---------|------|---------|----------|----------|-----------|

Species

- [Brown bear – *Ursus arctos* – Braunbär – Ours brun – Orso bruno – Medved](#)
- [Chamois – *Rupicapra rupicapra* – Gämse – Chamois – Camoscio – Kamzík vrchovský](#)
- [Ibex – *Capra ibex* – Steinbock – Bouquetin – Stambecco – Kozorog](#)
- [Lynx – *Lynx lynx* – Luchs – Lynx – Lince – Ris](#)
- [Red deer – *Cervus elaphus* – Rothirsch – Cerf – Cervo nobile – Navadni jelen](#)
- [Roe deer – *Capreolus capreolus* – Reh – Chevreuil – Capriolo – Srna](#)
- [Wolf – *Canis lupus* – Wolf – Loup – Lupo – Volk](#)
- [Wild boar – *Sus scrofa* – Wildschwein – Sanglier – Cinghiale – Divja svinja](#)
- [Mouflon – *Ovis gmelini musimon* – Mufflon – Mouflon – Mufflone – Muflon](#)

<http://www.kora.ch/malme/>

/ fr / it / si

Areas [en](#) / [de](#) / [fr](#) / [it](#) / [si](#)

the Environment [de](#) / [fr](#) / [it](#) / [en](#)

MALME - Metapopulation Approach for large Mammals in Europe - Case Study Alps

MALMEMetapopulation Approach for large Mammals
in Europe - Case Study AlpsInformation &
News

Species

Landuse &
Management

Policy

Library

Maps

Institutions &
StatisticsHelp
Impressum

Publications

| | | | | | | | | | | | | | | | | | | | |
|---------|---|---|---|---|---|---|---|------|---|---|---|------|------|---|---|---|------|---|--|
| A | B | C | D | E | F | G | H | I, J | K | L | M | N, O | P, Q | R | S | T | U, V | W | |
| X, Y, Z | | | | | | | | | | | | | | | | | | | |

X, Y and Z

- [Zaffaroni et al 2003 Nematodi abomasali in ruminanti selvatici alpini.pdf](#)
- [Zajec et al 2005 Kehrt Baer in Schweiz zurueck.pdf](#)
- [Zajec et al 2005 Return Bear Switzerland.pdf](#)
- [Zajec et al 2005 Rueckkehr Baer Schweiz.pdf](#)
- [Zechmann et al 2002 Dem Baeren auf der Spur.pdf](#)
- [Zedrosser 1995 Wolf Kehrt Mythos zurueck.pdf](#)
- [Zedrosser 1996 Wolf in Oesterreich.pdf](#)
- [Zedrosser et al 1999 Brown bears in Austria.pdf](#)
- [Zedrosser et al 2001 Status and management of Brown bear in Europe.pdf](#)
- [Zedrosser et al 2004 Early primiparity in brown bears.pdf](#)
- [Zeiler 1996 Jagd und Nachhaltigkeit.pdf](#)
- [Zeiler et al 1999 Attitudes toward bear and lynx in Austria.pdf](#)
- [Zimmermann 1998 Dispersion des lynx subadultes d une population reintroduite dans le Jura.pdf](#)
- [Zimmermann 2003 Lynx habitat fragmentation of Alps Preliminary model.pdf](#)
- [Zimmermann 2004 Conservation of the Eurasian lynx in a fragmented landscape.pdf](#)
- [Zimmermann et al 2002 Monitoring Luchs Schweiz 2001.pdf](#)
- [Zimmermann et al 2002 Monitoring Lynx Suisse 2001.pdf](#)
- [Zimmermann et al 2003 Monitoring Luchs Schweiz 2002.pdf](#)
- [Zimmermann et al 2003 Monitoring Lynx Suisse 2002.pdf](#)
- [Zimmermann et al 2004 Monitoring Luchs Schweiz 2003.pdf](#)
- [Zimmermann et al 2005 Monitoring Raubtiere Schweiz 2004.pdf](#)
- [Zimmermann et al 2006 Monitoring Raubtiere Schweiz 2005.pdf](#)
- [Zimmermann et al 2007 Dispersion des lynx subadultes en Suisse.pdf](#)
- [Zimmermann & Breitenmoser 2002 Distribution model for the Eurasian Lynx.pdf](#)
- [Zumbach & Lueps 1987 Hinweise zur Kondition des Steinwildes im Berner Oberland.pdf](#)

<http://www.kora.ch/malme/>

27 Jan 2010: 1108 PDFs





Thank you!

