

Area remote project

The future of Brown bear in Lombardia

or

**how to deal with wilderness in a region
with 422 people/KM²**

Mauro Belardi - Eliante



The human context – a comparison human/Km² in Europe

Finland - 17

Austria - 100

Italy - 199

Lombardia (project area) – 422



The wildlife context – Italy

Despite of the human density Italy hosts:

Brown bear – about 160

Wolf – about 2500

Lynx – small population

Golden jackal – expanding

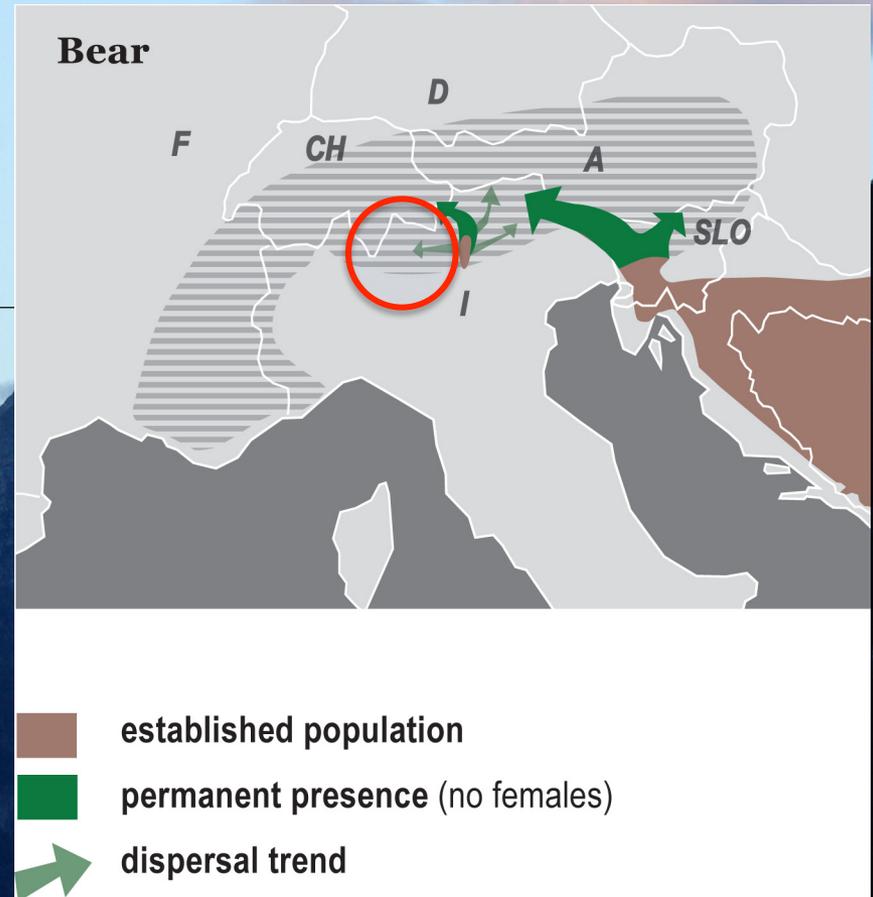
+ Otter, Wildcat...



The project in pills

Define criteria and a potential map for a future reproduction of **Brown Bear** in Lombardia (out of the Trentino core area)

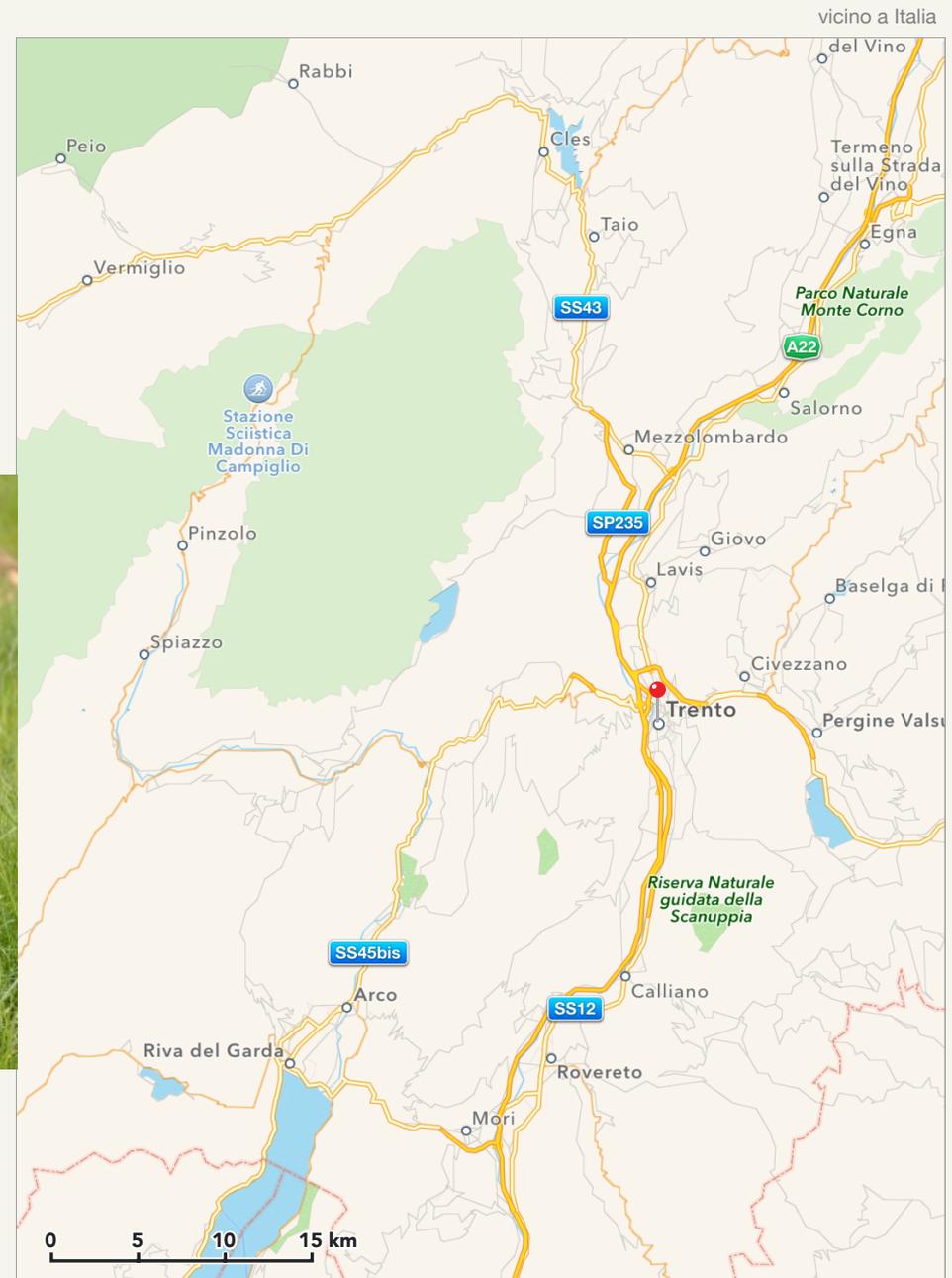
Financing – WWF EALP
Implementation – Eliante
Years: 2014-2015
Eliante staff involved: 2
Bear experts: 4
Local experts: 15



Starting point

- 70% of young males dispersal from Trentino regards Lombardia. East to the core area there too many barriers (Adige river + highway + railway + some steep mountain)
- young bears arrived very west, including Swiss Ticino Canton, Piemonte and less than 60 km from Milano
- number of bears in Lombardia is up to 5 at the same time, regular
- In Lombardia we had a minimum of 8 hibernation cases in last 15 years
- very few incursions from females, until now...

East to core area there are several barriers



Why the project is still urgent today

100 bears are probably too many for Trentino, at least from a social point of view...

Recent incidents with humans show that a so small and touristic region cannot support alone for long time the whole alpine population

We need new areas suitable for bears out of Trentino, also for improving the social acceptance inside the original core area...

The level of acceptance is today severely decreasing by recent attacks

Acceptance is not directly linked with number of bears, but of course a sort of correlation between the number of attacks and the number of bears exists





SVIZZERA
SVIZZERA

AUSTRIA
AUSTRIA

Bolzano

Trentino
Alto-Adige

Tarvisio

Friuli
Venezia-Giulia

Belluno

Pordenone

Gorizia

Lubljana

SLOVENIA
SLOVENIA

Lombardia
Lombardia

Sondrio

Brescia

Veneto
Veneto

Venezia

Trieste

MAR ADRIATICO

CROAZIA
CROAZIA

The first project idea:

- Establish a common GIS map of possible reproducing areas in Lombardia based on scientific literature knowledge
- Validate the map through an expert based consultation
- Present the map to Lombardia region, to the WISO platform and so on

but...

...the real situation we found on the field:

- Most of criteria were not mapped with a minimum quality
- Few GIS data collected and not comparable
- Criteria regarding conflicts and disturbance were not easy to map

We spent several months in order to decide if to try or to change the plan

...new project structure:

- A list of important criteria decided by a pool of few experts in bear reproduction in the alps
- Based on these criteria local experts in each province of Lombardia provide a list and a map of potential remote areas for bear reproduction (AR)
- Validation of AR by the staff after a field trip
- Presentation to the to the WWF Large Carnivores Team
- Next steps to be decided



Expert consultation for criteria

Experts:

Carlo Frapporti – bear expert Trentino (WWF, Trento Province bear responsible 1998-2013)

Eugenio Carlini – Lombardia habitats expert, involved in Life Ursus project 1999-2002 (Oikos)

Andrea Mustoni – scientific responsible of Adamello Brenta Park since 1998

Filippo Zibordi – scientific consultant of Adamello Brenta Park since 2002, Oikos Institute

Luca Pedrotti – scientific consultant of Stelvio National Park and Lombardia Region

Coordination: Mauro Belardi, Chiara Crotti (Eliante)

Remote areas – constraints for criteria definitions (listed by experts)



- The most important criteria for reproduction come from **disturbance and conflict** with humans and to map them is very difficult
 - GIS data are not complete and not comparable, so **experts consultation** is the only possible way (no alternative method for a validation)
 - 99% of information about reproduction in the Alps comes from **Trentino** (possible bias)
 - Nobody has a good idea about the **historical reproduction sites** out of Trentino: just general historical maps
 - **Out of limestone areas (western alps)** we have very few information about the hibernation/reproduction sites in the Alps. What about hibernation sites where caves are rare?
-



  **Classe Nazionale Scuole 2014**
Ministero dell'Università e della Ricerca
Ministero dell'Ambiente, della Tutela del Territorio e del Mare

NUOVE TECNICHE DI RICERCA

Quali sono le attività partecipative che influenzano maggiormente la qualità ambientale e sociale? Quali sono le attività che influenzano maggiormente la qualità ambientale e sociale? Quali sono le attività che influenzano maggiormente la qualità ambientale e sociale?

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Question for the experts: do you see a possible bear reproduction in Lombardia in the next future?

YES, but...

- The situation of the Trentino population is not safe and the social acceptance is decreasing
- The cooperation among different regions and countries is very low, despite of several Life Projects
- In Lombardia there are suitable areas, but not everywhere
- Minimum timing = 10 years

ANYWAY

It's very important to start to think about bears out of Trentino, both for conservation and social point of view. The conservation of remote areas is crucial.

Criteria for Remote Areas (AR) for bear reproduction (summary)

Localisation – AR must be exposed (mainly) to S or SE

Altitude – usually not higher than 1.600 metres

Hibernation site - caves or similar sites; in case of no caves, a good forestal structure is needed, with old trees and low management. Stip areas are better, even if less easy to reach

Food – the hibernation site can be also out of forest, but a pregnant female must consume a great quantity of food before the hibernation, so a not far area with rich food (berries, fruit) is necessary.

Disturbance during the hypertrophic period - Hunting seems to be the most impacting activities; dogs; road and traffic; breeding; tourism (mountain bike)

Disturbance during the hibernation – Snowmobiles, ski, presence of sites where people live all the year

Disturbance in early spring – Snowmobiles, ski, other winter sports

Criteria for Area Remote (AR) for bear reproduction (summary)

Protected areas – No specific link with bear reproduction with Protected areas or Natura 2000

Connectivity – AR should be connected and not isolated. Corridors can be also sub-optimal habitats

Conflict – A conflictual area can be not suitable for bear reproduction. All conflicts, even if not related with Bear. Human conflicts are not good for bears in general...

Presence of people - Exploration of AR by bears must be peaceful. Too many people can disturb even if they are pro Bear: observers, curious people, photographers. Dogs from tourists can be a serious problem.

Criteria for Area Remote (AR) for bear reproduction (summary)

Main specific questions discussed

Are the geographic names related to bear linked to past reproducing areas? Life “the Bear pass” “No, usually they are not reliable and they are connected sometimes with legends. In mostly cases they indicate places where bears were simply present (males, female, simple passages, damages).

Landslides areas are positive or negative for bears? Both. Landslides are a danger for bears (adults and cubs), but positive because in spring they are an importance source of dead ungulates.

In Lombardia there are few recent known hibernation sites. Are these sites good candidates as AR for future reproducing sites?

It make sense to take them into consideration, even the needs of a pregnant female and a young male during winter are different.

AR maps

AR list

84 Remote Areas defined at the starting point, thanks to several people working especially for Provinces or other local experts (6 meetings)

Validation process

	Total	Field trip
Como	8	4
Sondrio	39	9
Lecco	13	7
Bergamo	7	7
Brescia	17	4

About 30% of AR have been validated

We made a border redefinition after the field inspection

Validation field stage

Each AR candidate has been validated by us after a field trip, in case of need, and supplementary information have been collection from local people.

During this phase we took note about:

- general situation of the area
- disturbance
- human presence and activities (hunting, pastures, forest management)
- road presence and accessibility
- forest quality and structures
- presence of caves
- food availability in the area or in the sourrounding
- future projects
- photos

The period of field trip: from August to November



Final map



Are the AR wild areas?

NO

under the classic wilderness definition

But some criteria are close to it

Small remote areas + ecological corridors should be a good alternative to classic Wilderness in areas with very high human density? At least for some species?

The discussion is open...



**Classic hibernation or
reproduction site limestone
area**



...in case of no caves

Hibernation site in Orobie
(Bergamo province, Lombardia)

Village with
2.500 people

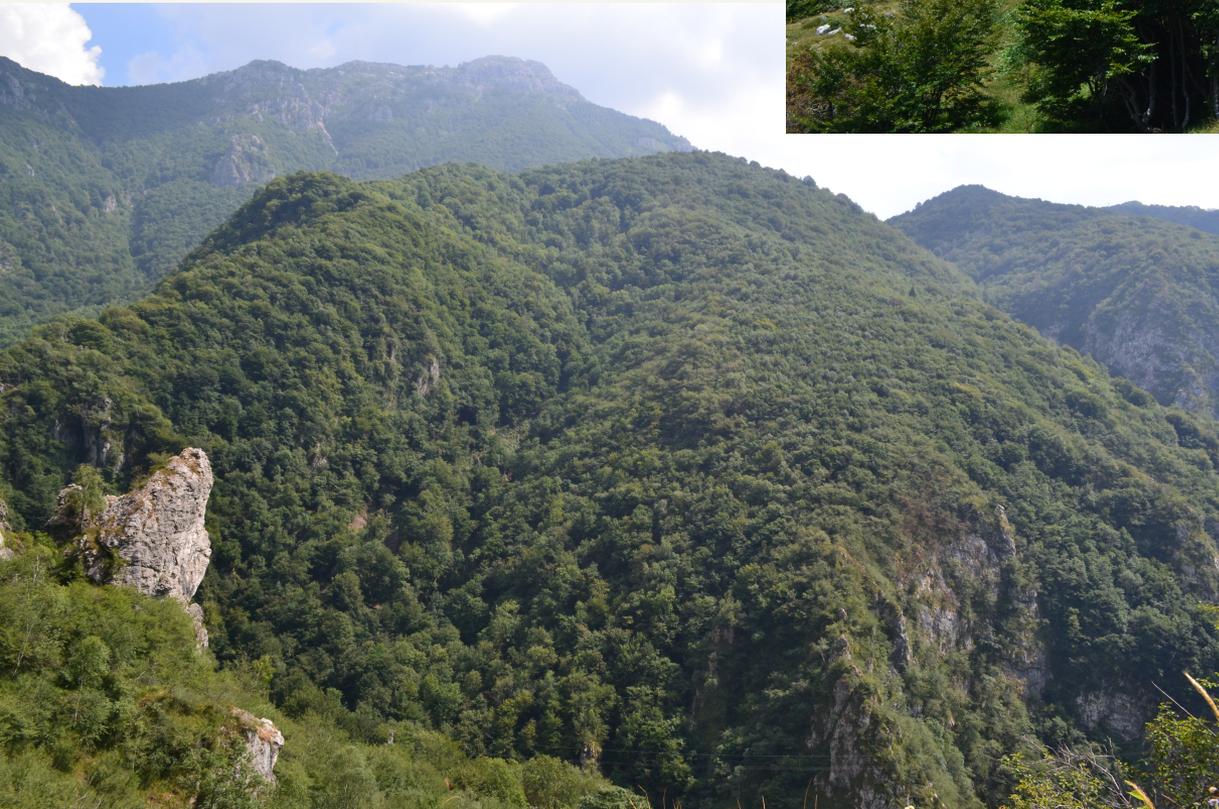
Sheep enclosure

...not classic Wilderness

The same phototrap in a AR in Brembana Valley
Distance from a permanent inhabited village: 200 metres



Two sites in Lecco province





Next project step

Complete the field validation

Include Swiss Ticino or Veneto region
in a similar analysis

Try to overcome the data availability
and quality problem

Decide when and if to involve
institutions

Fund raising!!!



A lot of professionals and volunteers helped us THANKS!

Trento:

Eugenio Carlini, Carlo Frapporti, Andrea Mustoni, Filippo Zibordi

Sondrio:

Italo Armanasco, Enrico Bassi, Mauro Belardi, Maria Ferloni, Claudio La Ragione, Ettore Mozzetti,
Battista Silvestri, Graziano Simonini

Como:

Antonio Bossi

Lecco:

Mauro Belardi, Antonio Bossi, Chiara Crotti

Bergamo:

Chiara Crotti

Brescia:

Davide Ardigò, Gialuca Cominini, Giacomo Feriti, Paolo Tavelli

Game: find the bear



Sometimes bears forget to read our articles about suitable areas and go where they want!!!

Thank you

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