

ECOLOGICAL CONNECTIVITY IN AND AROUND THE ALPS: CONNECTIVITY AREAS AND ECOLOGICAL TRANSECTS

The Alps: Connectivity Areas and Ecological Transects – Towards solutions to ensure Ecological Connectivity to and from the Alps?

Ecological connectivity is no longer ensured in many parts of the Alps, especially in the large belt area around the Alpine arc. To protect biodiversity and enable enough gene exchange and migratory movements of species, it is crucial to concentrate on measures in areas where connectivity is the most needed and where implementation is feasible. Transalpine ecological macro corridors and strategic connectivity areas are hot spots of connectivity allowing species to overcome barriers by improving landscape permeability through adequate measures and strategies.

The main features of Alpine ecological connectivity (barriers, ecological macro corridors and connectivity areas) are summarised on the map "Super SACA", which illustrates the high priority areas for action to ensure ecological connectivity for generations to come. Adapted measures need to be taken in these areas.

Identification of these areas reflects the output of a complex data analysis of several indicators such as land use. It also relies on the classification of the Alps into three SACA types as well as expert knowledge from the different Alpine countries and ALPBIONET2030 project partners.

Connectivity areas are strategic regions, where protection, planning and specific ad-hoc measures are necessary to avoid isolation of Alpine biodiversity at the Alpine periphery (EUSALP) and to allow the conservation of large-scale wildlife corridors reaching neighbouring mountain massifs of the Alps. Connectivity areas represent pathways through identified obstacles or bridging areas where SACA 1 areas (made of "biotopes" and "stepping stones" of an ecological network) are missing or are insufficient in number.

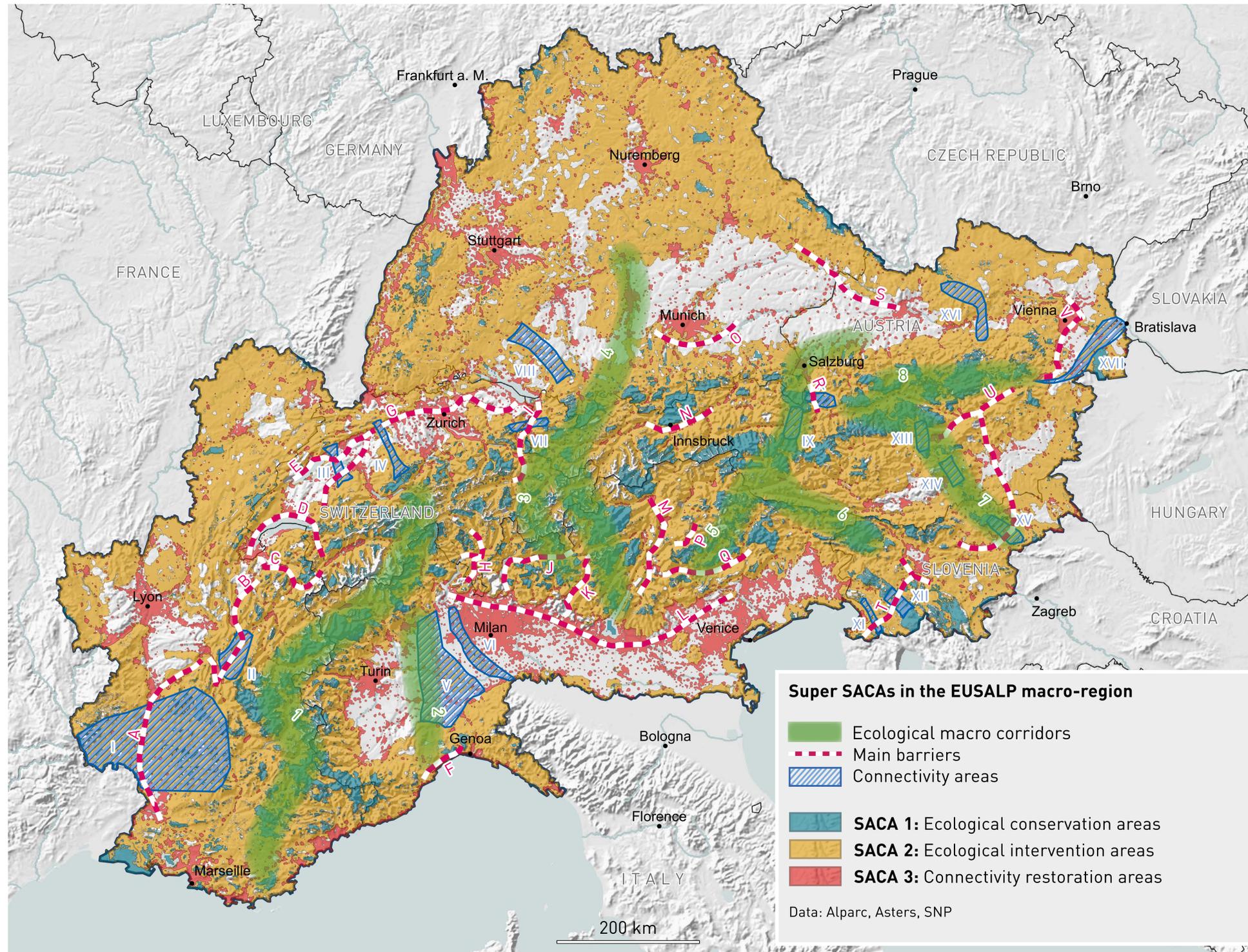
Ecological macro corridors functionally ensure long distance links between habitats and less fragmented regions by providing both north-south and east-west ecological connectivity in (and through) the Alps. North-south "corridors" are highly significant for species migration and constitute an important "green-infrastructure" and an adaptation strategy addressing climate change. It is of high ecological interest to conserve these areas along the macro corridors, which are often composed of protected areas. It is essential to understand that these macro corridors and the areas surrounding them are part of the last non-fragmented sectors of the Alps covering numerous SACA 1 areas.

Some of the connectivity areas (e.g. I, III, IV, V, XII, XVII) and the macro corridors (e.g. 2, 4, 7) have a very high importance not only for the Alps and the EUSALP area but also for larger parts of Europe by interconnecting European mountain massifs or different biogeographical regions. Defining "Super SACA", the map provides the first concrete indication of where to prioritize action. This does not, however, represent an exhaustive list.

SACA1: Ecological conservation areas
Areas where ecological connectivity works quite well
Recommendation: conservation of the status quo

SACA2: Ecological intervention areas
Important links between SACA1s; connectivity is (partly) working
Recommendation: improvement / restoration measurements

SACA3: Connectivity restoration areas
Important barriers between SACA1s
Recommendation: remove barriers/mitigate negative impacts



Connectivity Areas

- I Pyrenees - Central Massif - Alps
- II Path of Life corridors Isere valley (Gresivaudan)
- III Jura - Seeland - Alps connectivity area
- IV Oberaargau connectivity area
- V Western Po catchment area
- VI Ticino River connectivity area
- VII Rhine Valley connectivity area
- VIII Swabian connection Black Forest/Alps
- IX Berchtesgaden-Hohe Tauern connectivity area
- X Salzachtal connectivity area
- XI Karst connectivity area
- XII Alps-Dinarics connectivity area
- XIII Mustair connectivity area
- XIV Lavanttal Alps connectivity area
- XV Drautal connectivity area
- XVI Bavarian Forest - Bohemia - Danube connectivity area
- XVII Alpine - Carpathian connectivity area

Ecological Transects

- 1 Western North-South transect
- 2 Alps - Apennine transect
- 3 Central North-South alpine transect W
- 4 Central North-South alpine transect E
- 5 Eastern North-South transect
- 6 South Eastern transect
- 7 Eastern transect
- 8 Far East transect

Major barriers

- A Rhône valley
- B French Northern pre-alpine valleys
- C Arve valley
- D Lake Geneva region
- E Jura Alps
- F Western Sea Alps
- G Northern Swiss Plateau
- H Lago di Como agglomeration
- I Rhine valley agglomeration
- J Como-Adda agglomeration
- K Val Camonica
- L Central southern Alps - Upper Italy
- M Adige valley
- N Inn valley
- O Southern Munich Area
- P Fiemme valley
- Q Trento-Belluno transit corridor
- R Tauern Highway north-south transit axis
- S Danube valley transit axis
- T Central Slovenian transit axis
- U Leoben - Grazer Becken - Klagenfurt - Slovenian Border
- V Alps - Carpathians traffic corridors

