



# IMPLEMENTATION RECOMMENDATIONS

## IMPRINT:

Authors: Michaela Künzl, Marianne Badura, Anne-Katrin Heinrichs, Guido Plassmann, Ruedi Haller, Chris Walzer

These implementation recommendations were elaborated in the ECONNECT project, funded by the EU within the framework of the European Territorial Cooperation Alpine Space Programme and co-funded by the European Regional Development Fund.

Copyright © 2011. STUDIA Universitätsverlag, Herzog-Sigmund-Ufer 15, A-6020 Innsbruck. Cover design: Thomas Waldner, Karen Schillig

Print and Publisher: STUDIA Universitätsbuchhandlung und –verlag.

Printed in Austria 2011

ISBN 978-3-902652-52-2

This work is subject to copyright. All rights reserved, whether the whole or part of the material is concerned.

Cover picture: SAVIO Laura ©Parco Naturale Prealpi Giulie







## Why Implementation Recommendations?

The expanse of protected areas is generally too limited to allow for fully functional ecosystems at a scale large enough to conserve biodiversity. Alpine parks and nature reserves alone are too small to protect Alpine biodiversity, especially in times of climate change where increased migration of fauna and flora is essential for the survival of whole groups of species. Migration needs horizontally and vertically interconnected habitats with as little fragmentation as possible (Füreder et al. 2011, 9). It must be assumed that patches of undisturbed habitats should be as large as possible in order to attain ecosystem functions that are more resilient in the face of anthropogenic threats, e.g. pollution, invasive species, extractive and unsustainable uses, etc. To respond to these threats protected areas have to be actively managed and cross-sectoral landscape-level approaches are needed.

During implementation of the ECONNECT project, seven pilot regions under the leadership of protected area administrations applied a common methodology to elaborate and realize various concrete measures and to establish spatial linkages in order to improve ecological connectivity in their region. The experiences and lessons learnt from this process are summarized in the 'Implementation Recommendations'. The Implementation Recommendations are aimed at supporting protected area administrations and experts working towards nature conservation at a regional level.

The Implementation Recommendations can also be viewed on the project website:  
[http://www.econnectproject.eu/cms/?q=download\\_area/en](http://www.econnectproject.eu/cms/?q=download_area/en)

## FACTSHEET - The ECONNECT Project

The ECONNECT project was designed to improve the understanding of the ecological connectivity concept and to enhance connectivity across the Alpine range. The project pursued a holistic approach in developing multi-tiered ecological networks that integrate protected areas, administrative bodies, scientific institutions and a multitude of stakeholders across national borders. The project was developed under the Alpine Space Programme of the EU and had a total budget of €3,198,240, of which the European Regional Development Fund (ERDF) contributed: €2.285.120. The project ran from September 2008 to November 2011.

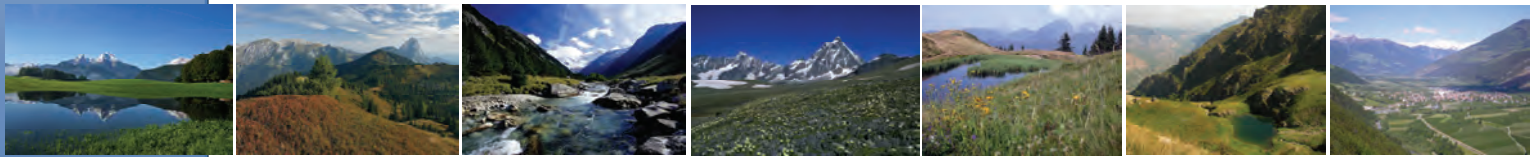
Sixteen partner organisations from six Alpine countries collaborated in the project:

- Austria: University of Veterinary Medicine, Vienna - Research Institute of Wildlife Ecology (lead partner); Hohe Tauern National Park; Environment Agency Austria; Gesäuse National Park; University of Innsbruck - Institute of Ecology.
- Germany: National Park Berchtesgaden.
- France: CEMAGREF; Council of the Department of Isère.
- Italy: Alpi Marittime Natural Park; Autonomous Region Valle d'Aosta; European Academy of Bolzano; Ministry for the Environment; WWF Italy.
- Liechtenstein: CIPRA International.
- Switzerland: Swiss National Park.
- International: Task Force for Protected Areas – Permanent Secretariat of the Alpine Convention.
- Observers: Federal Agency for Nature Conservation; BfN (DE), International Scientific Committee for Alpine Research ISCAR (CH); Nature Park Logarska Dolina (SLO) and Biosfera Val Müstair (CH).



## Pilot regions for ecological connectivity in the Alps

In ECONNECT the entire process of realizing ecological connectivity, from analysing to planning to implementing, was accomplished in seven pilot regions that served to test the implementation of connectivity measures. The process included dialogue on ecological connectivity with all relevant stakeholders as well as the realisation of concrete activities to improve connectivity on the ground. The seven pilot regions were selected following a clearly defined process and in accordance with a set of shared criteria, encompassing diverse natural and ecological conditions. The following pilot regions were involved:



### Pilot Region “Berchtesgaden – Salzburg”(Austria-Germany)

This pilot region is a transboundary area falling within the Free State of Bavaria (Germany) and the Federal State of Salzburg (Austria). The region is an example of the typical biodiversity-rich Alpine landscape, where intact natural areas and culturally shaped landscapes coexist. The region includes 3 large protected areas: National Park Berchtesgaden, Biosphere Reserve Berchtesgadener Land, Nature Park Weissbach. The landscape is characterized by a mosaic of diverse habitats: pristine alpine habitats, traditional cultural landscapes, natural forests, extensive grasslands, and mountain pastures.

Field activities included:

- Utilisation of extensive grasslands,
- Connectivity for amphibians along roads,
- Saletbach river - revitalisation and connectivity study,
- Improving transboundary cooperation on connectivity and spatial planning.

### Pilot Region “The Northern Limestone Alps” (NP Gesäuse) (Austria)

The pilot region “Northern Limestone Alps” covers the north-eastern part of the Alpine range from the Alpine Rhine to the Viennese basin. It consists of a network of 25 protected areas covering a total area of 2,000 km<sup>2</sup> in the three Austrian federal states of Styria, Upper Austria and Lower Austria. The region is influenced by the area of “Eisenwurzen” and its Geopark. It is a vast area with low settlement density, a low degree of fragmentation, a large proportion of forest (> 80%), a densely structured cultural landscape and rich biodiversity. The region represents an important connection to other Alpine regions and the Carpathian Mountains. Species richness is high and some very rare species occur in proximity to water springs. The most important natural habitat types are the beech-fir-spruce forests.

Field activities included:

- Measures to protect the habitats of the White-backed Woodpecker (*Dendrocopos leucotos*),
- Measures to protect the habitats of the Ural Owl (*Strix uralensis*),
- Awareness raising through a public "Connectivity Event".



### **Pilot Region “Hohe Tauern and Dolomite Region”(Austria-Italy)**

The pilot region plays a significant role for the entire Alpine range, being a crucial juncture between the Northern Alps and the Southern foothills in Italy and Slovenia as well as between the Western and Eastern Alps. It encompasses the largest cohesive protected area network in the Alps with the National Park Hohe Tauern (AT) and the South Tyrolean Natural Parks (Rieserferner-Ahrn, Fanes-Sennes-Prags, Drei Zinnen, Puez-Geisler) in Italy. The Hohe Tauern region is the roof of Austria with the Grossglockner Mountain towering at 3,798 m.a.s.l. and more than 300 other peaks above 3,000 m. 10% of its area is still covered by glaciers. The landscape typically includes wild, primeval mountainous habitats and cultivated lands.

Field activities included:

- Western capercaillie (*Tetrao urogallus*) connectivity project Mallnitz,
- Western capercaillie connectivity project Matrei,
- Winter sport visitor management project Larisa in Mallnitz,
- Including ecological connectivity in the Austrian Strategy for National Parks.

### **Pilot Region “Monte Rosa”(Italy)**

The Monte Rosa massif is located along the border between Italy and Switzerland, entirely in the Alpine area at a mean altitude of 3,350 m, with a minimum of 2,000 m and a maximum of 4,531 m. The pilot region includes the priority habitat “limestone pavements” and is known to be an important area for the ibex (*Capra ibex*).

The main economic activities in the area are tourism (ski runs and related infrastructure) and agriculture (pastures).

Field activities included:

- Maintenance of landscape elements beneficial to ecological connectivity,
- Adoption of new measures for connectivity improvement on the occasion of Special Areas of Conservation (SAC) designation,
- Regulation of tourist flows.

### **Pilot Region “The Department Isère” (France)**

The French Department of Isère in the region Rhône-Alps is an important migration route for birds and other species migrating to the mountains and to the adjacent protected areas (National Park Les Ecrins, Natural Parks Vercors, Chartreuse, Bauges). The valleys are densely populated. Habitats are rich and diverse ranging from high mountains to alluvial forests.

Field activities included:

- Awareness campaign on light pollution on the 1st of October 2011,
- Making a wall more permeable for migration, formerly identified as a barrier for wildlife, further work on barriers for birds,
- Training session organised with the National Research Institute on Science and Technology for the Environment and Agriculture, Cemagref,
- Methodological guide of hierarchical ecological networks.

### **Pilot Region “The south-western Alps” (NPs Mercantour/Alpi Marittime) (France-Italy)**

The South-Western Alps region is located at the southwest tip of the Alpine range in the French regions of Provence-Alpes-Côte-d'Azur. The region includes the Mercantour National Park and the Italian regions of Liguria and Piedmont where the Alpi-Marittime Natural Park is located. Relations between the regions include close cultural exchanges, trans-boundary cooperation, well-established forms of collaboration and a common vision for a “European National Park”. The pilot region is an important connection between the mountain ranges of the Apennines and the Alps and is home to many species of animals and plants. The Maritime Alps are also famous worldwide for their botanic richness (2600 species).

Field activities included:

- Improving aquatic connectivity,
- Improving terrestrial connectivity,
- Improving aerial connectivity (e.g. by making cable cars visible, in particular for birds).

### **Pilot Region “The Raethian Triangle” (Italy-Switzerland-Austria)**

This pilot region is situated in the Austrian-Italian-Swiss borderland and consists of a network of protected areas, national and natural parks like the Swiss National Park and the Stifserjoch National Park, the Biosphere Val Müstair, Kaunergrat Natural Park, Adamello and Adamello Brenta as well as parts of South Tyrol Natural Parks.

The origin of the name Raethian Triangle goes back to the time of the ancient Romans, when it described the cultural alliance of several populations in the central Alps. Today, the term has been revived to refer to international collaboration between the area of Grisons in Switzerland, Tyrol (Austria) and South-Tyrol (Italy).

The Raethian Triangle and the adjacent areas of Trentino and Lombardy are home to a wide range of Southern and Central Alpine habitats, from dry meadows to small remnants of previous riverine systems as well as the whole spectrum of forests from lower based broad-leaved forests to different coniferous forests at higher altitudes.

Field activities included:

- Preserve connectivity in the Rom riverine system,
- Implement connectivity in the regional planning process,
- Collaboration with the INSCUNTER project model – synergies in rural areas.

## ECONNECT Vision

**ECONNECT envisions an enduringly restored and maintained ecological continuum, consisting of inter-connected landscapes, across the Alpine Arc region, where biodiversity will be conserved for future generations and the resilience of ecological processes will be enhanced.**

This assumes that:

i) Larger tracts of interconnected and permeable landscapes in undisturbed and human-dominated landscapes maintain more biodiversity than fragmented landscapes, which enables regeneration and renewal to occur after ecological disruption. Following disruption, smaller less diverse ecosystems may suddenly shift from desired to less desired states and their capacity to generate total economic value may decrease.<sup>1</sup>

ii) Functioning ecological processes are the foundation for the adequate provision of ecosystem services.

This implies that:

iii) Active adaptive management and governance of resilience must not be limited to individual elements of an ecological network (corridors, core zones), but must necessarily be applied to the entire territory (matrix) and across all sectors of society, while enabling non-exclusive, multi-functional spaces for sustainable economic and recreational activities Alpine communities.

iv) In the face of marked global anthropogenic change and applying the precautionary principle,<sup>2</sup> policy makers are urged to initiate wide-reaching decision-making processes and implement any needed policy changes on a legal/institutional level to sustain desired ecosystem states and transform degraded ecosystems into fundamentally new and more desirable configurations.

<sup>1</sup>**Total Economic Value (TEV)** appears in environmental economics as an aggregation of the main function-based values provided by a given ecosystem. Those include use and non-use values.

*Use Value - Direct:* Obtained through a removable product in nature (e.g.. timber, fish, water).

*Use Value - Indirect:* Obtained through a non-removable product in nature (e.g. sunset, waterfall).

*Option Value:* Placed on the future ability to use the environment. This reflects the willingness to preserve an option for potential future use.

*Non-Use Value:* Placed on a resource that will never be used, otherwise known as Existence Value or Bequest Value.

<sup>2</sup>The application of the **precautionary principle** has been made a statutory requirement in the European Union law. See: Recuerda, Miguel A. (2006). "Risk and Reason in the European Union Law". *European Food and Feed Law Review* 5.

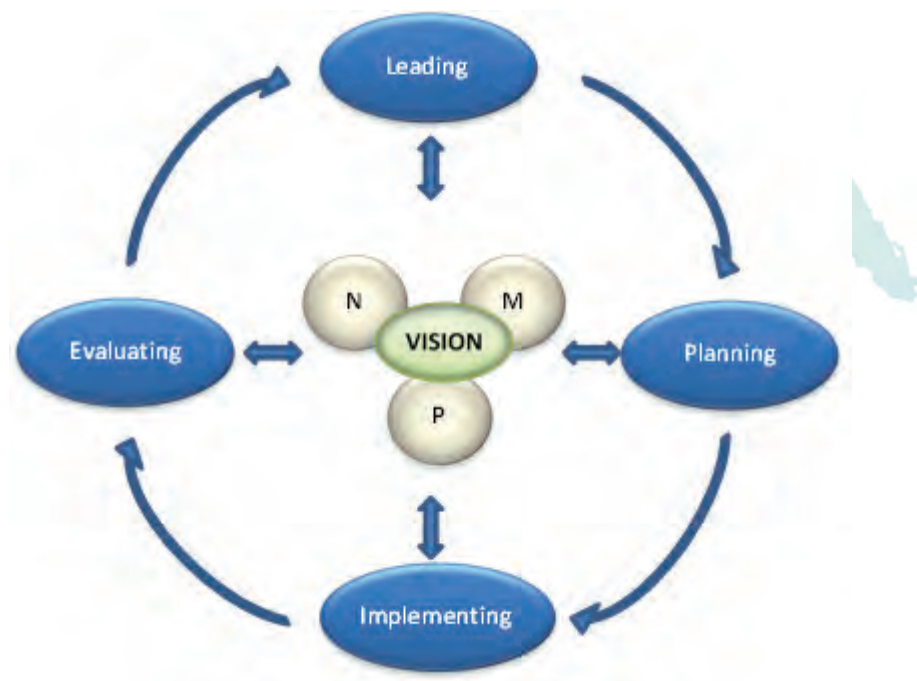


## Connectivity Conservation Management Framework

The conservation management framework and related key tasks described by Worboys *et al.* (2010) constitutes a theoretical framework behind the process of realizing connectivity measures. This concept assumes that all measures are based on a common vision. Connectivity conservation management itself can be classified into three main contextual domains:

Nature – People – Management

The nature context is the main driver for connectivity conservation actions and requires the involvement of people, which results in the management of those actions. The people context includes aspects like the socio-economic dimension (of a pilot region) or the natural and spiritual values of a territory or region. The management context tackles issues of how land is legally and institutionally organized, planned and managed (Worboys 2010, 304). For the success of connectivity management it is essential to understand the key contexts of nature, people, and management (Worboys 2010, 302). Furthermore, the connectivity conservation management framework includes the following management functions which are structured according to a conventional process of management:



(Worboys 2010, 308)

The framework suggests to differentiate the aspects of these five management functions as part of the iterative management process: being aware of the three dimensions of the context (nature, people, management), defining leadership tasks and functions, planning steps which need to be prepared and considered, defining the implementation phase and evaluating activities as well as the whole process.

## Executive Summary

Implementation Recommendations addressed

Title	Problem / Question	Approach
1) <b>The Pilot Region Approach – a successful governance model and ‘future lab’ for enhanced ecological connectivity in the Alps.</b>	Ecological connectivity needs comprehensive concepts and practical implementation activities. Necessarily, these must be co-ordinated in order to achieve tangible results.	Protected area administrations are starting points for the development of successful governance models of connectivity at regional level due to their interdisciplinary competences and know-how.
2) <b>Pilot regions contribute towards maintaining and improving priority areas for connectivity in the Alps.</b>	Priority areas for ecological connectivity require both conservation and preventive measures to maintain or improve their value.	The JECAMI tool enables the pilot regions to identify their role and the potential for connectivity in the Alps and at a regional level.
3) <b>It is essential to develop a suitable mix of analysis methods to define and implement ecological connectivity in the pilot regions.</b>	The basis of ecological connectivity requires the analysis of landscape elements (structural) and species needs (functional) in order to develop comprehensive results.	ECONNECT identified the landscape approach as basis for ecological connectivity. Species serve as indicators for landscape functions and support detailed analysis steps as well as the evaluation of measures at local level. Additionally, they are valuable for communication purposes.
4) <b>Connectivity measures must be based on a common regional focus.</b>	In pilot regions specific regional conditions, local knowledge, needs and constraints must be considered and integrated to achieve a maximum impact for ecological connectivity.	Embedded in an Alps wide context and common methodological approach, all actors at pilot region level contribute to get a clear picture on the existing framework conditions for connectivity in order to find adequate solutions for its specific regional context.
5) <b>Cross-sectoral cooperation is a pre-condition for maximizing ecological connectivity and nature conservation in the Alps.</b>	Impacts on biodiversity and connectivity are manifold, often resulting from activities of spatial relevance of different economic sectors. This calls for interaction and co-operation with the respective impact sources.	Pro-active efforts to analyze and counteract risks for biodiversity and connectivity must be tackled by joining forces with other relevant sectors – the instruments are territorial and include in particular spatial planning.
6) <b>Pilot regions should communicate their knowledge on legal frameworks conditions and constraints in order to facilitate efficient progress towards ecological connectivity.</b>	Existing legal instruments may be useful to achieve connectivity goals.	The existing national rules and regulations concerning connectivity need to be carefully analysed. Their potential for enhancing connectivity must be discussed and proposals have to be made as to necessary improvements and modifications.

*Note: Implementation recommendations are not prioritized.*

The following six implementation recommendations are illustrated with a table diagram showing to which context and level of operation a given recommendation mainly refers to within the Conservation Management Framework.. The explanatory text reflects the working process behind the most important aspects of the individual recommendations and key actions of the process in the pilot region(s).

How to read the table diagrams:

CONTEXT:		
PR	[...text...]	N
LEADING:		
PR	[...text...]	N
PLANNING:		
AS	[...text...]	M
IMPLEMENTING:		
PR	[...text...]	M
EVALUATING:		
IN	[...text...]	P

Contextual domain:

**N – Nature**

**P – People**

**M - Management**

This is displayed on the right side of the table and visualised with different colours.

The respective level of operation is illustrated on the left side of the table:

**AS – Alpine Scale**

**PR – Pilot Regions**

**IN - Individual**

The classification into operational levels is given by subordinating the different steps within every recommendation under the corresponding headline:

- Context
- Leading
- Planning
- Implementing
- Evaluation



## Implementation Recommendation 01:

The Pilot Region Approach – a successful governance model and ‘future lab’ for enhanced ecological connectivity in the Alps.

LEADING:		
PR	Leading of the dialogue with all partners/stakeholders on priority areas in the pilot region	P
PR	Discuss and decide on governance model (e.g. Steering Committee)	M
PLANNING:		
AS	Profiling of pilot regions in the Alps wide nature conservation context	N
PR	Decide on delimitation of pilot region	M
PR	Preparatory work for the establishment of the selected governance model	M
IMPLEMENTING:		
PR	Elaboration of pilot region map and active communication of delimitation	M
PR	Establishment and putting into function of governance model	M
EVALUATING:		
PR	Continuous feedback model for delimitation of pilot region	M
PR	Collection of feedback on level of motivation and support upon partners/stakeholders	P

Protected areas are a key element of ecological networks due to their spatial role in the network and their potentially catalytic function for the initiation and support of the process to maintain and restore ecological connectivity. Protected area administrations not only have valuable interdisciplinary competences and know-how regarding several aspects which are essential for the process, like communication skills and specific ecological knowledge of the region. Moreover, according to several international and European agreements and guidelines, they are obliged to ensure the spatial and functional integration of the protected area(s) into its surroundings (e.g. Natura 2000). Protected area administrations have successfully taken on the role of co-ordinators in the process of analysing and improving ecological connectivity at the level of the pilot regions serving as a model for the implementation process on the ground. Their particular needs, competences and leadership functions have been previously described in the ‘Policy Recommendations’ of the ECONNECT project (Füreder *et al.* 2011).

For protected area administrations it has become obvious that the delimitation of pilot regions must thoroughly consider the territorial aspects of natural areas versus administrative boundaries, the needs of participatory aspects in the delimitation process and a clear distribution of competences and tasks within the group of involved persons and institutions. The delimitation can be dynamically adapted to upcoming needs of ecological connectivity, by respecting at the same time some basic ecological features which are crucial for connectivity in that pilot region.

For successful operation in the pilot region, it is essential to provide a clear picture of the role, competences and motivation of the protected area administration in the process. It must be apparent that the facilitator leading the process acts as a service provider and moderator within the pilot region, encompassing the different opinions and aspects of the stakeholders involved. The facilitator must fulfil some elementary tasks, e.g. a

participatory communication process, an on-going analysis of knowledge and research gaps, developing the strategic involvement of additional players.

In order to implement an alternative governance structure at pilot region level (which does not necessarily correspond to an administrative body with a defined framework and boundary or even to another country), it is strongly recommended to agree from the onset on a clear decision-making structure, e.g. a 'Steering Committee' of the pilot region or a foundation with common statutes, etc. Such a decision-making board will help to establish a sustainable structure which can extend activities beyond the lifetime of an individual project.

Pilot regions bring an added value to the process of establishing ecological connectivity as they provide the possibility to test theoretical concepts and cross-border co-operation and last but not least they are the areas where connectivity initially becomes reality.



## Implementation Recommendation 02:

Pilot regions contribute to maintaining and improving priority areas for connectivity in the Alps.

CONTEXT:		
PR	Awareness on existing research gaps on ecological connectivity in all pilot regions (PR)	N
LEADING:		
AS	Assessment of the situation of ecological connectivity in the Alpine Arc (based on Alpine Convention, Protocol Nature and Landscape Conservation, Art. 12)	N
AS	Formulation of a vision for establishing ecological connectivity and an ecological continuum at Alps wide level	M
AS	Elaboration of tactical and operational plans for achieving the overall strategic goals	M
AS	Decision on research needs based on strategic conservation goals for Alpine biodiversity	N
PR	Gap analysis and profiling of pilot region(s) like regional context and conclusions on research needs	N
PR	Verification of overall goals and co-ordination of target hierarchy within and between all pilot regions involved	M
PLANNING:		
AS	Planning of ecological continuum on Alpine scale	N
AS	Operational planning for strategies to achieve a landscape with a high potential for connectivity	P

The concept of priority areas for connectivity allows for a full-scale comparison of the ecological potential of pilot regions at an Alpine level. A profiling of pilot regions with regard to their most valuable habitats, species and their importance for connectivity at a landscape level (and for certain species if needed) provides important information for spatial planning approaches and the further application of species habitat use and migration models with respect to climate change challenges.

This approach also assists in developing the coherence of the European NATURA 2000 network of protected areas.

The evaluation of priority areas can be based on the indicators of the JECAMI tool (Continuum-Suitability-Index – CSI) (Affolter *et al.* 2011). These indicators provide valuable statements on the interface between regional and the Alps wide level of conservation and connectivity objectives.



## Implementation Recommendation 03:

It is essential to develop a suitable mix of analysis methods to define and implement ecological connectivity in the Pilot regions.

CONTEXT:		
AS	Analyses with CSI/JECAMI/CARL at Alpine level	N
PR	Identify species and landscape	N
PR	Identify indices	N
PR	Comprehensive analysis of available data on species and planning of measures	N
PR	Analyses with CSI/JECAMI/CARL at pilot region level	N
LEADING:		
AS	Decision on species for defined purposes (Alps wide analysis, communication, connectivity in different landscape levels, etc.)	N
AS	Decision on structure of analysis tool(s) and data sets to be used	N
AS	Selection of habitats/species which are under pressure (e.g. rivers+energy)	N
PR	Decision on priorities of species/habitats for the pilot region	N
PLANNING:		
AS	Integration of selected species in overall working programmes	M
AS	Definition of focus activities for further implementation work	M
IMPLEMENTING:		
AS	Validation of Alps wide results in co-operation with national responsible bodies	M
PR	Research studies/analyses within the PR	N
PR	Implementation of species and habitat conservation measures	N
EVALUATING:		
AS	Evaluation at wider public on reception of species selected	P
AS	Evaluation of results and formulation of conclusions for further progress in connectivity policy and framework conditions	M
PR	Reality check of results on (non-)connectivity of areas with second gap analysis	N

Developing and implementing the appropriate methodology for the analysis of ecological connectivity in the pilot regions was a time-consuming process. Finally, an integrated model was developed that included structural landscape features and functional species needs in a multi-dimensional matrix which allows migration at and between all hierarchic levels, thus providing a multi-permeable landscape for all taxonomic groups.

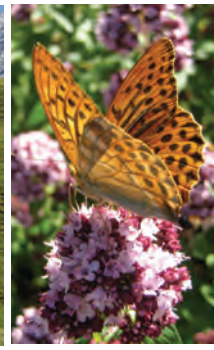
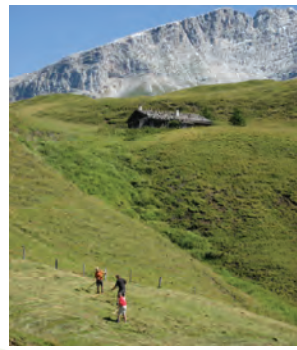
The further integration of selected species in the definition of the connectivity context has two very important additional functions:

- Species help to achieve a more detailed level of analysis at local or regional level and serve as indicators for relevant landscape functions (according to their particular migration needs or typical patterns of behaviour).

- Species help to communicate the needs of ecological connectivity in a way that is easy to understand, in particular for the wider public. This applies even more if species have a good acceptance and create sympathy for nature conservation topics.

The Continuum Suitability Index (CSI) is a unit of the JECAMI tool developed by ECONNECT. It provides a very flexible instrument to evaluate the potential of connectivity in a defined territorial context. It delivers and visualises integrated spatial information that can serve as a basis for decision-making processes at the local and Alpine wide level.

It can be viewed and tested under the following link: [www.jecami.eu](http://www.jecami.eu)



## Implementation Recommendation 04:

Connectivity measures must be based on a common regional focus.

CONTEXT:		
PR	Internal management concepts for existing protected areas and the regional dialogue	M
PR	Identification of common vision, main threats and potentials of the pilot region	N
LEADING:		
PR	Establish contact and ensure exchange to existing projects and initiatives	M
PR	Reflection and decision on co-operation and strategic partners and on communication methods to address these potential partners in the region	P
PR	Manage the process of prioritizing the regional needs (as preparatory work for the PSG)	M
IN	Decision on topics and stakeholder groups/persons to be included in the co-operation at the individual site	P
IN	Bottom-up approach at regional level for integration of partners	P
PLANNING:		
PR	Common development of activities or transparent integration of partners in planning of measures	P
PR	Common planning of communication contents and target groups in the pilot region	P
IMPLEMENTING:		
PR	Involvement of existing projects and initiatives	M
PR	Implementation of measures according to hierarchic level of objectives' matrix	M
EVALUATING:		
PR	Feedback rounds with partners	P
PR	Evaluation of communication measures	P

Once the scientific basis for connectivity goals and activities has been laid, it becomes crucial to start the discussion on how these goals and measures can be implemented within the given setting and framework of a pilot region. According to the feedback from the pilot regions in ECONNECT some of the main factors for success have been the availability and support of partners, the awareness of the problem and the fact that opportunities were existent delivering co-benefits. It was apparent that the combined knowledge and experience of the various partners in the pilot region created a significant added value in establishing connectivity measures.

Common definition of the goals facilitates the integration of individual strategic aspects and regional opportunities and constraints within the pilot region. This leads to a generally significantly higher acceptance of connectivity issues and to better results in terms of ecological connectivity itself.

Integrating science in the evaluation and decision-making process in the pilot regions serves to validate the regional process within the Alps-wide discussion and development of connectivity. Additionally, the Alps-wide level provides the framework for the pilot



regions, which are at the same time an integral part of the Alps-wide process, as they allow for the implementation of agreements like the Alpine Convention on the ground.

Last but not least, the acceptance and support of implementation activities on the regional level increases markedly as a result of local awareness of the contribution of pilot region activities towards Alpine biodiversity conservation.



## Implementation Recommendation 05:

Cross-sectoral cooperation is a pre-condition for maximizing ecological connectivity and nature conservation in the Alps.

CONTEXT:		
AS	Integration of ecological connectivity needs in sectoral policies	M
LEADING:		
AS	Develop partner involvement strategy at Alpine level and ensure exchange and contact to stakeholders	P
AS	Agreement on format of co-ordinating body at Alpine level by National States and EU	P
PR	Moderation of dialogue with partners, stakeholders and the wider public	P
IN	Involvement of adequate counterpart (equal administrative level for decisions to be taken)	M
PLANNING:		
AS	Define interface and cooperation opportunities with partners/stakeholders	N
PR	Define interface and cooperation opportunities with partners/stakeholders	P
PR	Considering and integrating links to existing structures/institutions of other sectors	M
PR	Risk management by defining measures to cope with external and internal threats	M
IN	Task and competence-driven planning of resources (staff/partners/stakeholders)	M
IN	Targeted integration of multipliers coming from the different sectors	P
IMPLEMENTING:		
AS	Involvement of stakeholders with active conflict or communication management	P
PR	Involvement of stakeholders with active conflict or communication management	P
PR	Installation of operational unit for cross-sectoral integration of connectivity issues	M
EVALUATING:		
AS	Monitoring of level of active participation and support	M
PR	Monitoring of level of active participation and support	M

Impacts on connectivity often result from spatial demands of different economic sectors. Maintaining and creating ecological connectivity should therefore be a key task of many diverse sectors: An ecological continuum cannot be limited to nor maintained by protected areas. The landscape as a whole must allow for connectivity as otherwise biodiversity goals cannot be achieved.

The most appropriate instrument for collecting and balancing the territorial claims of different sectors are territorial and spatial planning instruments. Spatial planning may help to identify essential threats to ecological connectivity, biodiversity and sustainable land use. It may also help to develop measures to cope with those threats. As a consequence, active communication and information of other sectors on the needs of connectivity and biodiversity topics as well as conflict and communication management must be on the agenda of protected area administrations (or other facilitators of ecological connectivity).

The protected area administrations have considerable potential to facilitate interaction at the administrative level by using existing (communication) networks, project partnerships or by providing input on legally binding topics of the nature conservation authority itself (e.g. water management, agriculture, etc.) to other sectors. The challenge for protected area administrations is in clearly demonstrating and communicating their role as competence centres and facilitators for regional ecological connectivity. This role is the key to obtaining the necessary relevant information concerning on-going initiatives, partners, structures and objectives of other sectors in respect to ecological connectivity development. This is even more true for cross-border co-operations, as administrative structures may be different and counterparts not easily approachable. However, the lack of dedicated resources to establish regular contacts and to deepen the debate with other sectors relevant for the creation of an ecological continuum often prevents protected area administrations from being successful in this context.

One approach to obtain information from other sectors is performing prospective surveys. However, these must not be considered as singular events but as a starting point for a continuous exchange of information. The partners involved must get the clear message that the intention of the protected area administration is to establish a constant and reliable co-operation and partner network.





## Implementation Recommendation 06:

Pilot regions should communicate their knowledge on legal frameworks conditions and constraints in order to facilitate efficient progress towards ecological connectivity.

CONTEXT:		
PR	Identify legal barriers and opportunities	M
LEADING:		
PR	Decision on procedure to identify legal barriers	M
PR	Interaction with other sectors to overcome legal constraints and to profit from legal options	M
PR	Organize training sessions for staff and experts in the pilot region on existing regulations favourable for ecological connectivity topics	M
PLANNING:		
PR	Planning of implementation measures for connectivity by making use of existing regulations and legal framework	N

The legal framework for working on ecological connectivity aspects is based on several EU directives and regulations in different sectors. It is crucial to be aware of the possible interactions between different regulations and to understand their possibilities and limits. Normally, protected area administration staff, do not have a complete up-to-date knowledge of all relevant regulations. This implies that constant exchange and training on this issue is indispensable. This mainly refers to the interfaces with agriculture, forestry and water management. Regular exchange meetings should be obligatory at the pilot region level. These meetings or training sessions should be used to openly discuss the opportunities and constraints as they relate to concrete case studies within the pilot region. As real conflicts can arise from the case studies, it is recommended to previously define conflict rules for the Steering Board at pilot region level.

For all pilot regions working at cross-border level, it is even more complicated, as the legal framework of another country has to be considered when defining implementation measures and co-operation actions, a legal framework which may differ from the own system.

## **Bibliography:**

AFFOLTER, D., ARINAS ENVIRONMENT AG, HALLER, H.; "The Continuum Suitability Index (CSI) – Technical Report"; 2011. unpublished.

ECONNECT Project, <http://www.econnectproject.eu/cms/>

*ECOLOGICAL CONTINUUM INITIATIVE; Glossary; resource document; 2008.*

FÜREDER L., et al. (2011): ECONNECT Policy recommendations. pp 12.

RECUERDA, M. A. "Risk and Reason in the European Union Law"; European Food and Feed Law Review 5; 2006.

TEEB ('The Economics of Ecosystem and Biodiversity'); <http://www.teebweb.org/>

ULLRICH-SCHNEIDER, A., Pirc M., Righetti A., Wegelin A. (2009): The ecological Network in the Alps – Defining criteria and objectives for pilot regions, pp 16.  
<http://www.alpine-ecological-network.org/about-us/platform-ecological-network/pilot-regions>

WORBOYS G. L., Francis, W. L. and Lockwood, M. (eds.) 2010. Connectivity conservation management - A global guide. Earthscan, London, pp 382.

WWF Germany (2004): The Alps – a unique natural heritage. A Common Vision for the Conservation of their Biodiversity. Frankfurt am Main, pp 32.  
<http://www.cipra.org/en/alpmedia/publications/836>

## **Further reading:**

Arduino, S., Mörschel F., Plutzer C. (2006): A Biodiversity Vision for the Alps – Proceedings of the work undertaken to define a biodiversity vision for the Alps – Editor: WWF European Alpine Programme, Mailand, pp 128.  
<http://www.cipra.org/de/alpmedia/publikationen/3077>

Haller, R. (2011): "Freier Durchgang für Tiere und Pflanzen in den Alpen." arc aktuell , 2, pp 32-33.

PERMANENT SECRETARIAT OF THE ALPINE CONVENTION; "Alpine Convention"; 1995, Bolzano (Italy).

Ständiges Sekretariat der Alpenkonvention (2004): „Grenzübergreifender Ökologischer Verbund“ Studie nach dem Mandat der Alpenkonvention ‚Netzwerk Alpiner Schutzgebiete‘, Alpensignale 3

## **Photographs:**

DUTOIT Christophe © Parc naturel régional Gruyère Pays-d'en Haut (on page 1)

SAVIO Laura (on page 2)

National Park Berchtesgaden (on page 3)

KERSCHBAUER T. © National Park Gesäuse (on page 3)

RIEDER © National Park Hohe Tauern (on page 3)

Monte Rosa (on page 3)

The Department Isère (on page 3)

Parco Naturale delle Alpi Marittime (on page 3)

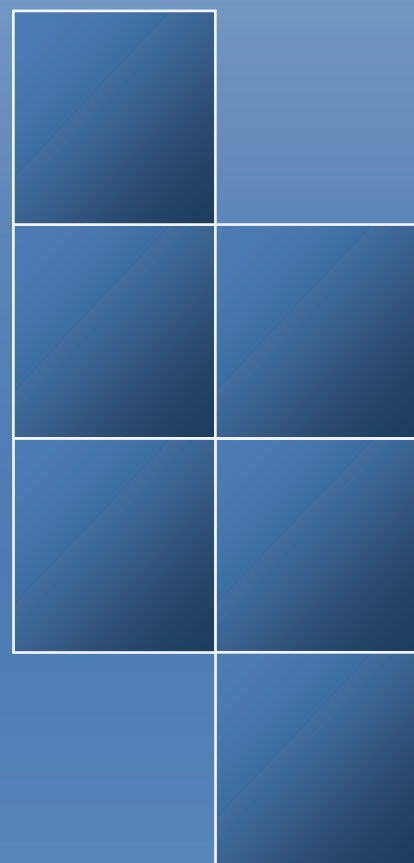
Swiss National Park (on page 3)

KLENOVE Christine © Naturpark Weißbach (on page 14, extensive grassland, butterfly)

HERFRIED Marek (on page 14, White-Backed Woodpecker)

KREINER Daniel © National Park Gesäuse (on page 14, habitat of White-Backed Woodpecker)

SCHILLIG Karen (on page 11, 18)



[www.econnectproject.eu](http://www.econnectproject.eu)