Surveying cultural landscape elements across the Alpine Space

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Abstract

What the majority of people nowadays perceive as *natural* is in fact a landscape shaped, influenced and changed constantly by generations over the centuries. While until the mid-20th century, natural conditions determined human land use, modern agricultural economy doesn't depend on soil conditions or climate. As a result, the *typical* regional landscape has been transformed into a more uniform, optimized production landscape that looks similar across Central Europe. The destruction of the traditional cultural landscape comes with a rapid loss of species. If the historic cultural landscapes could be saved from total eradication, it would be a big step forward to stop the extinction of species. Traditional man-made landscapes are worthy of protection and preservation, not only for of their ecological but also for their regional and identity-creating significance. The remaining vestiges of historic man-made landscapes should be captured for the entire area and assessed so that they can be incorporated in spatial planning. In the investigated area, it was possible to establish a clear relationship between the history of the region and the remaining historical elements. To make this relationship accessible to a broader public and to decision makers is an important challenge for the future.

Profile

Protected area

Berchtesgaden National Park

Mountain range

Alps

Country

Germany

Introduction

Preface

In addition to conservation efforts for natural landscapes, there is an additional need to protect cultural landscapes, i.e. landscapes shaped and altered by humans. Centuries of human activity have created a diverse patchwork of small-scale landscape elements. As a result, transition areas have emerged, e.g. from forest to open space, which provide a number of ecological niches. Many specialized species rely on these habitats.

Cultural landscapes have witnessed the land use of earlier generations, thus forming a living *chronicle*. In the course of the industrialization of agriculture, the landscape was optimized for production. Unlike previous changes in landscapes, which rarely were of a dimension that erased all earlier traces, today's changes proceed ever faster and on a larger scale, so that the old landscape vanishes completely (Gunzelmann 1987, p. 24).

An inventory and a historical classification is needed if we want to be able to maintain precious cultural landscapes and / or recreate them using traditional agricultural methods. To date there are only few systematic inventories of cultural landscape elements within the Alpine Space.

In connection with the proposal and implementation of the European ECONNECT project in pilot area 6, Berchtesgaden-Salzburg, there was a special interest in capturing and assessing the cultural landscape elements. The investigations presented below were carried out as part of a diploma thesis at the Faculty of Landscape Architecture of

Figure 1 – A typical traditional fence of the region as an example of a cultural landscape element. © Manuela Müller

the University of Applied Sciences Weihenstephan-Triesdorf, supervised by Prof. Dr. Bernd Stöcklein.

Objectives

The study aimed to ascertain if there still is a traditional cultural landscape in the study area or if it has been partly or completely altered. It also served to develop a method of capturing the landscape elements that could be applied to the entire pilot region and, with small adaptations, to the entire Alpine Space.

The pilot region ECONNECT Berchtesgaden-Salzburg (or rather sections thereof) were chosen as study area because connected cultural landscape elements
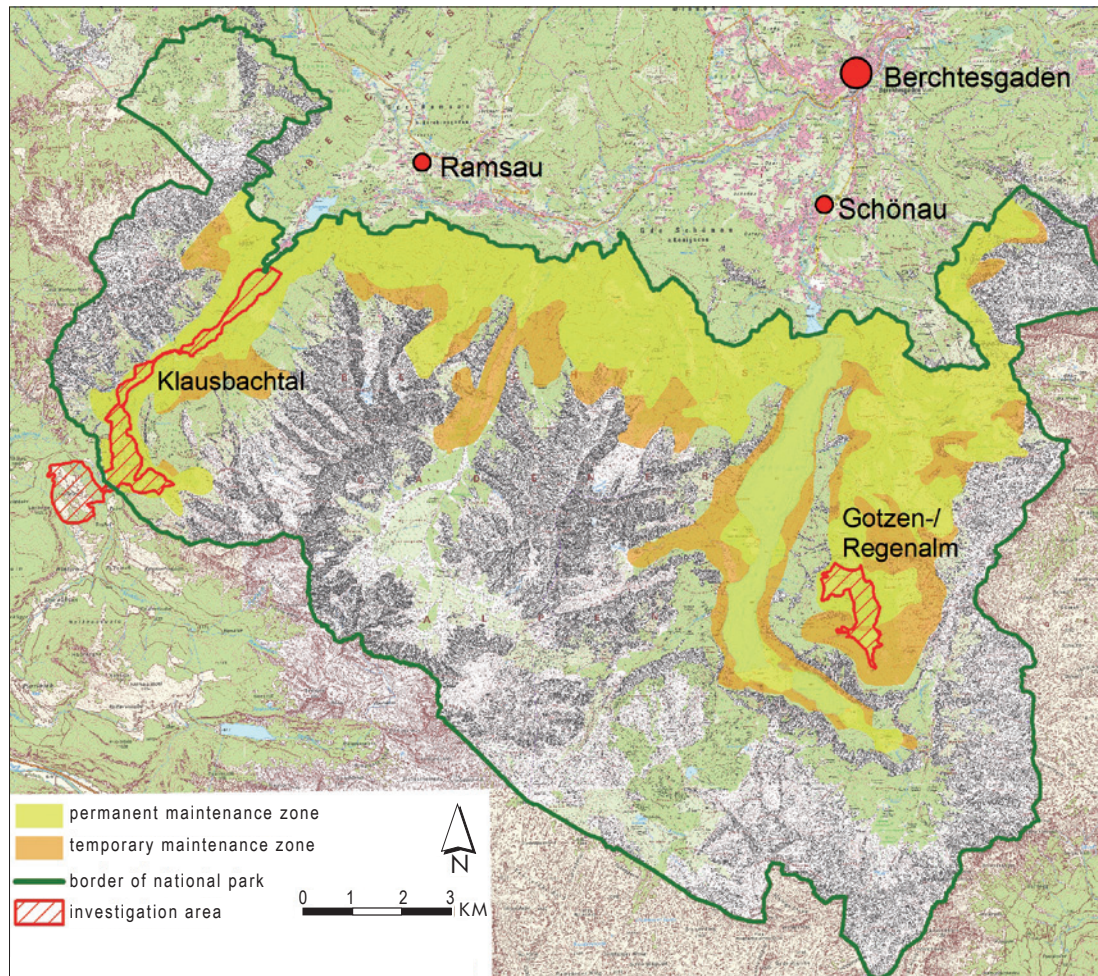
Figure 2 – Delimitation of the study area. Topographic map © Bayer. Vermessungsverwaltung; 2/2012

(e.g. woodland pastures, open pastures, extensive hay meadows) also secure the connection of biotopes. Species specialized in such habitats can communicate and spread in connected habitats.

Study area

The study area is situated in ECONNECT pilot region 6. To devise a universal capturing questionnaire, areas on both the German and the Austrian side of the border were included. On the German side, this was the Klausbachtal valley in the municipality of Ramsau. For reasons of comparability, the area east of lake Königssee, with Gotzen- and Regenalm (municipality of Schönau on Königssee), was included as these are the oldest mountain pastures on record in the Berchtesgaden Alps. Both the Klausbachtal and the two mountain pastures belong to the permanent maintenance zone of Berchtesgaden National Park (NP).

The study area on the Austrian side is situated in Weißbach Nature Park in the municipality of Weißbach near Lofer, in the Hintertal. This is the Hirschbichl area and the Litzlalm pasture.

Methods

Capturing the basics of historic cultural landscapes

I based my method on the guide *Historische Kulturlandschaft*, edited by the Bavarian State Ministry for Food, Agriculture and Forestry. This guide had been used in the pilot project *Region Oberfranken-West* of the Bavarian State Environment Office.

The survey started by capturing the natural features of the respective area. The natural conditions were a decisive factor for humans use. Areas favoured by natural conditions and agricultural ecology developed a completely different cultural landscape pattern from marginal areas. This is why I shall start with a brief overview of the geological and climatic conditions, the soil, vegetation, network of waterways, as well as the surface forms and the topography. This will be followed by a summary of the historical development of the cultural landscape, esp. in terms of land use. The focus will be on settlement and agricultural history. The development of the fields is of special significance here. Also included is the political / territorial and the ecclesiastical development of an area, as these have repeatedly had a direct influence on the use made of a cultural landscape. I shall complement this lon-

Table 1 – Some examples of the assessment of cultural landscape elements (here: elements from Klausbachtal).

No.	Description	Historical evidence value (twofold)	State of maintenance	Rarity	Significance as typical for the region	Ecological value	Ecological demonstration value	Tourist value	Total	Value level
1	Hirschbichlstreet	4	2	2	3	1	2	4	22	**3**
2	Open: Heimweide Hintersee	4	3	2	4	3	3	4	27	**4**
3	Open fossil: Heimweide Hintersee	4	2	2	4	2	3	3	24	**4**
4	Gravel / sand mining	2	2	1	2	3	2	1	15	**2**
5	Old boundary marker	3	3	3	1	1	1	1	16	**2**

gitudinal development of the cultural landscape with a *cross-sectional* representation of the end of the feudal and crafts-dominated agrarian society around the middle of the 19th century, based on the original survey. (Gunzelmann 2001, p. 27)

These surveys of the study area were created as part of my diploma thesis and are detailed therein. They form the basis for capturing the cultural landscape elements in the terrain and the subsequent linking of the individual elements (Müller 2010, p. 43).

Capturing elements in the study area

Method

The initial question concerns the selection of elements to be captured of a historic cultural landscape. It does not seem feasible to limit the period of origin as, given the perishable building material (timber) (e.g. wells, watering troughs), very many elements cannot be attributed reliably to a particular period and have been repaired and rebuilt repeatedly. Therefore I applied the method used in the pilot project of the Bavarian State Environment Office.

This envisaged capturing those elements that had been created by a previous society as socially, economically and stylistically appropriate for their circumstances and which are no longer produced by today's society in its altered circumstances and ideas because they are no longer appropriate. The elements must fit into the landscape and adapt to the natural space and fit into the surrounding landscape in terms of scale. This definition does not put any limits on the period, as in early industrialized areas such elements ceased to be created from the mid-19th century onwards, while there are some areas where even today elements are being produced that fulfil the conditions of the definition (Gunzelmann 1987, p. 44).

Fieldwork is the basis of the capturing method but it is not sufficient, because you may overlook unknown elements or attribute recognized elements wrongly. The elements identified in the field must therefore be linked with archival data, e.g. from an initial survey, interviews with witnesses of earlier periods, etc. (Gunzelmann 2001, p. 29).

Data basis

The cartographical basis for capturing the cultural landscape elements included aerial photographs, historical maps (initial survey 1808–1864, historical atlas of Bavaria from 1706, see Albrecht 1954). In addition, I analysed specific themed maps, esp. the map collection on agricultural use included in the Berchtesgaden NP plan. The historical maps complemented the survey for checking and localizing cultural landscape elements (Albrecht 1954).

Creation of an element catalogue

As there is no state-wide register of cultural landscapes, I used the guide for capturing and assessing cultural landscapes developed by the Bavarian Administration of Rural Development and the Bavarian Office for Cultural Heritage Preservation as the basis for my catalogue of cultural landscape elements. The Bavarian State Environment Office also uses the catalogue included there for its few pilot projects carried out so far.

The element catalogue of the Bavarian State Environment Office is subdivided into the following functional areas:
- settlement;
- agriculture;
- trade and industry;
- traffic;
- recreation;
- religion, state, military;
- associative cultural landscape.

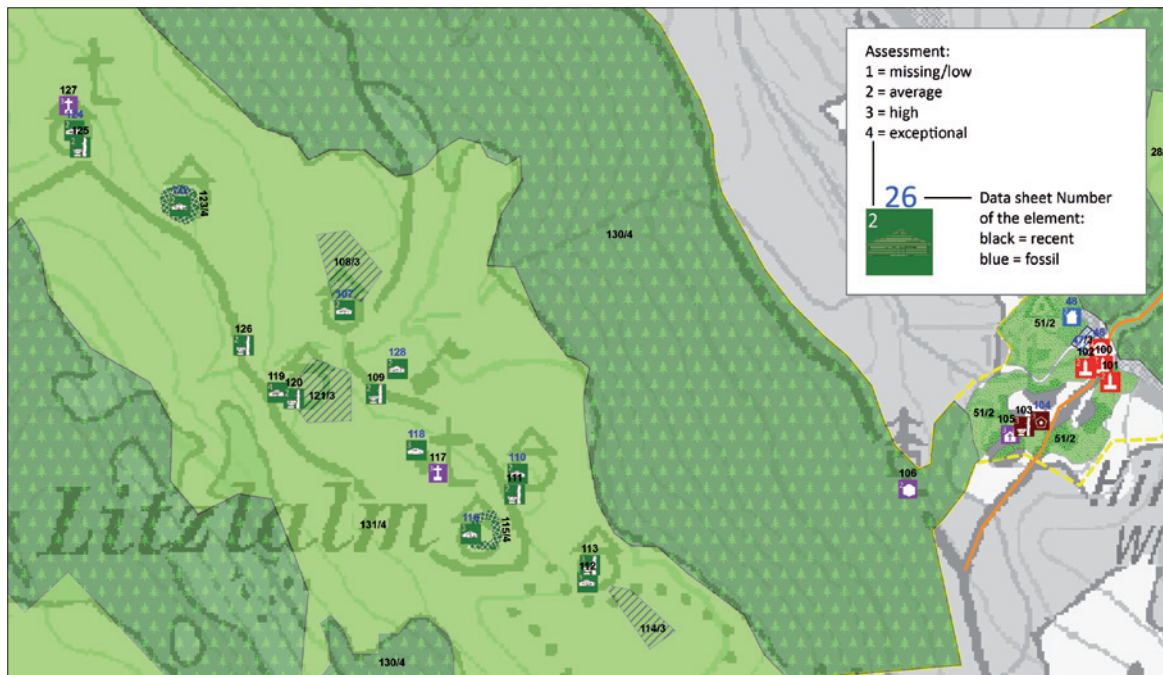*Figure 3 – Detail from the cultural landscape catalogue (Müller 2010).*

Figure 4 – Detail of result map with assessment. Topographic map © Bayer. Vermessungsverwaltung; 2/2012

Within each functional area, the catalogue distinguishes between point, line and extensive elements.

For the catalogue of the study area, I added elements that one might typically expect for the pilot region of Berchtesgaden-Salzburg. In addition to an analysis of literature about the area, I found the cross-border Euregio project *Sehen und Sichern – Schätze der Kulturlandschaft* (Identify and secure – cultural landscape treasures) and a completed diploma thesis on grassland in the study area helpful.

Method of capture

I captured the elements previously developed from the catalogue (mentioned above). To keep the number of unidentified elements to a minimum, I analysed the topographic and historical maps of the area closely before the first scheduled field work. The elements were localized using a GPS receiver with GIS software. You can also do this by manually entering the elements into an aerial photograph and entering them into a GIS later.

For each object, I entered the following data into an observation sheet: serial number, name, description and condition. Then I took at least one photograph of each element.

Analysis

Each element and its details are represented on a catalogue-type data sheet. It includes a detailed description of the object, an analysis in terms of cultural history, as well as at least one photograph and a section of the map on which the precise location of the object has been entered.

It was also necessary to create a map of all captured elements on the basis of a topographical map. This inventory map shows to what extent, if at all, vestiges of

the cultural landscape still exist (Gunzelmann 2001, p. 30). We distinguish between recent and fossil elements, i.e. elements that still fulfil their original function and those that do not. Each element was accorded an assessment value from one to four. A second result was a map of land use in the 19th century on the basis of the original inventory.

Assessment

The Bavarian State Environment Office assessed the cultural landscape elements in the pilot project according to the following criteria: its value as historical evidence, state of preservation, rarity and characteristic feature (Bavarian State Environment Office / Bayerisches Landesamt für Umwelt 2004, p. 33). In addition to these criteria, they assessed the ecological aspect, which is particularly relevant for the extensive cultural landscape elements. The assessment also took into account the close interaction of natural landscape elements and the added value generated from them by humans. Last but not least, the significance of each element for tourism was entered into the assessment, since tourism is highly relevant in the Alpine Space. Each criterion had four value levels: missing / low, average, high and exceptional value. The results were added and then attributed to four value levels.

Historical evidence

This value does not refer to the absolute but to the relative age of an element within its group. The criterion also reflects the value of the element to its user at the time it was created. I also took into account whether the age of the element could be backed up with concrete sources or only through a typological comparison. Because of its overall significance, this criterion is the only one that is weighted twice.

Table 2 – Value levels of the total captured cultural elements in % (Müller 2010).

Value level	Klausbachtal	Hintertal	Gotzen- / Regenalm
4 (exceptional)	23%	16%	35%
3 (high)	31%	37%	19%
2 (average)	38%	47%	39%
1 (low)	8%	0%	7%

State of preservation

This mainly reflects the formal state of preservation of the element, taking into account the degree of integrity, transformation and corruption of the object. I also examined if the element still fulfils its original purpose or another or no purpose at all, thus assessing the functional state of preservation.

Rarity

The value of an element rises in proportion to the shrinking total of existing objects of its kind. This value reflects the rarity of an element within a particular region beyond the study area.

Significance as typical element of the region

This criterion relativizes the rarity value somewhat, since an element must be present in a certain number in order to be perceived as typical for a region. However, it also allows a qualitative assessment in cases where, for reasons of natural or historical and social spaces, certain elements only occur in that region.

Ecological value

Cultural landscape elements do not necessarily represent an ecological value, but many elements have a species preservation function, an area protection function (e.g. hedges) and an ecologic stabilization function.

Ecologic demonstration value

Cultural landscapes are characterized by a close interaction of a given natural landscape and the added value created by humans. This criterion reflects the degree of adaptation and fit of historical land use to the natural circumstances. This may also include elements that have no ecological function in themselves.

Tourist value

People like to experience a cultural landscape as a whole in which you can walk around. This includes extensive elements that most people do not perceive as cultural but as natural landscape. (Gunzelmann 1987, p. 130)

The historical cultural landscape in its totality

Even if the assessment maps present a good summary of the current and historical state of the cultural landscape, it is also necessary to develop an overall interpretation of the historical cultural landscape. While individual elements may be significant, in the end it is
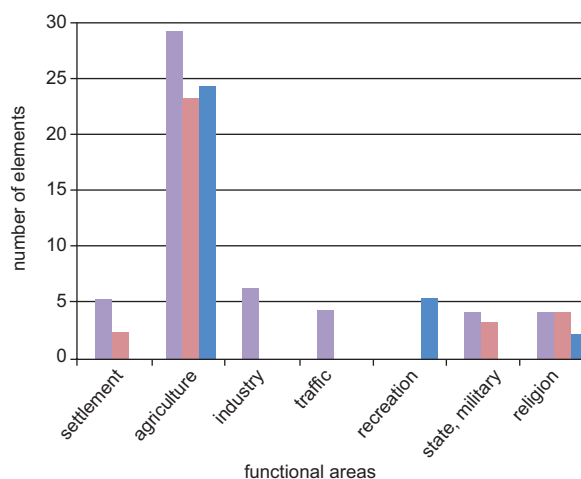

Figure 5 – Captured cultural landscape elements, total (Müller 2010). ■ Klausbachtal, ■ Hintertal, ■ Gotzenalm

the total character of a landscape that creates regional identity and a feeling of belonging. An important task of such an overall interpretation is linking the individual elements, which never just stood for themselves but were part of an historical, largely self-sufficient agricultural operation. Each element in this cycle fulfilled one or more functions that, put together, ensured that the village had enough to eat. An overall interpretation also needs to point out the interdependence of natural landscape factors and historical drivers that have led to the emergence of a specific cultural landscape. (Gunzelmann 2001, p. 28).

Results of the study area

In the study area, a total of 115 elements were captured; of these, 76 are agricultural elements (65%). The remaining 35% are distributed more or less evenly across the other functional areas. Agriculture also dominates when it comes to the number of different elements, with a total of eleven different elements. Given the number of elements and the wealth of different elements, there can be no doubt that this is indeed a cultural landscape.

The study clearly points to the great former significance of agriculture, here mainly mountain animal husbandry. Moreover, this type of land use is largely still going on, while logging and timber rafting for the salt works have long ceased.

Significance of the cultural landscape elements for the Berchtesgaden NP and the connectivity project ECONNECT

The inventory of cultural landscape elements in selected parts of Berchtesgaden NP makes clear that a variety of cultural landscape elements in different functional areas can be captured and that this provides an important basis for preserving and protecting traditional cultural landscapes in a protected Alpine area. There had been no documentation about the distribu-

tion and classification of the elements within the NP. The study thus closed a gap in the inventories of the NP in the field of historical cultural landscapes. These findings are particularly relevant for Berchtesgaden NP in its role as ECONNECT pilot area. Traditionally, Berchtesgaden mountain farmers have held rights to use the studied areas on both sides of the border in Hintertal (Hirschbichl and Litzlalm), federal province of Salzburg, since the middle ages. This use of the mountain meadows in an area of cross-border agricultural use needed to be referenced to the mapped cultural landscape elements. For the ECONNECT project of cross-border ecological connectivity in the pilot area Berchtesgaden-Salzburg, these findings are highly relevant because mountain animal husbandry facilitates cross-border migration of species between protected areas and increases the permeability of the landscape. Another key objective of ECONNECT is securing and preserving traditional area elements of cultural landscapes with a broad range of rare animal and plant species. The results of the study help to assess more precisely which cultural landscape elements are present in the study area and how to include them in the implementation of project measures.

Conclusion

Traditional cultural landscapes are worth preserving and protecting, not only because of their ecologic significance but also because the shape they take is typical for a region and identity-forming. Given their great role in species conservation, traditional cultural landscapes and their land use must be integrated more fully in conservation planning. The remaining vestiges of historical cultural landscapes need to be mapped and assessed everywhere so that they can be considered in spatially relevant planning. In the study area, a clear link could be forged between the history of the region and the still existing historical elements. An important task for the future will be the dissemination of this link to decision makers and to the wider public.

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