Conference Volume | **4th Symposium of the Hohe Tauern National Park for Research in Protected Areas** September 17th to 19th, 2009, Castle of Kaprun | pages 21-24

A Research Programme for the Hohe Tauern National Park

Kristina Bauch[1], Stefan Lieb[2], Michael Jungmeier[2]

[1] Hohe Tauern National Park Salzburg, Mittersill
[2] ECO Institute of Ecology, Klagenfurt

Summary

Research has a long tradition in the Hohe Tauern area. The spectacular high-mountain landscape of rock, ice, white water, alpine pastures and near-natural high forest has always fascinated visitors and inspired scientific investigations in those with a natural history bend. In the early days, systematic exploration centred on capturing and identifying flora and fauna in the area. Ever since the establishment of the Hohe Tauern National Park, research on anthropogenic influences and on management issues has gained importance.

Today the Hohe Tauern area is an internationally recognized large protected area, the oldest national park in Austria and the largest national park, both in Austria and within the entire alpine arc (http://www.hohetauern.at). Science & research, managing natural space and education & visitor information make up the three core task blocks of a national park. Research activities here are based on the 2020 Research Programme (www.hohetauern.at/de/forschung.html), which was passed by the national park council in 2007 and covers all three federal state sections in Salzburg, Carinthia and Tyrol.

Keywords

Research, management, (research) programme

Objectives

The Hohe Tauern National Park provides excellent conditions for research. It has a total size of 1,836 km², with a high diversity of natural spaces, long-term protection, natural zones devoid of any utilization, large near-natural areas, a high potential for natural dynamics and a solid research record.

From its inception, many research institutions with numerous research projects have been active in the national park. In 1997, for the first time, a common research programme was developed for all three sections of the Hohe Tauern National Park. It was evaluated in 2006 and replaced in 2007 by a new research programme, redesigned from scratch. Its main objective was for research to take into account current requirements of the national park management and to integrate topical research themes like climate change or biodiversity into the programme.

In developing the programme we looked at four areas:

- objectives and tasks ("why" research)
- substantive foci ("what" research)
- the technical and organizational framework ("how to" research)
- the weight of research within the protected area ("how much" research)

Methods

Three main groups of actors worked on the project: Hohe Tauern National Park, an external consultant and (inter)national experts. It was directed and coordinated by the external consultant, in cooperation with a member of the Working Group Research (Arbeitsgemeinschaft Forschung AGF) of the Hohe Tauern National Park, which works across federal state boundaries. The external experts in alpine and protected area research – without any direct links with Hohe Tauern National Park – came in via structured telephone interviews. In addition, we talked to individual scientists doing research in the national park area. The research programme received its final adaptations after debates with the national park administration.

Three workshops plus an internet platform, equally accessible from all three federal states involved, served as communication channels. The internet platform allowed collecting and debating all necessary research questions and framework conditions via a searchable database.

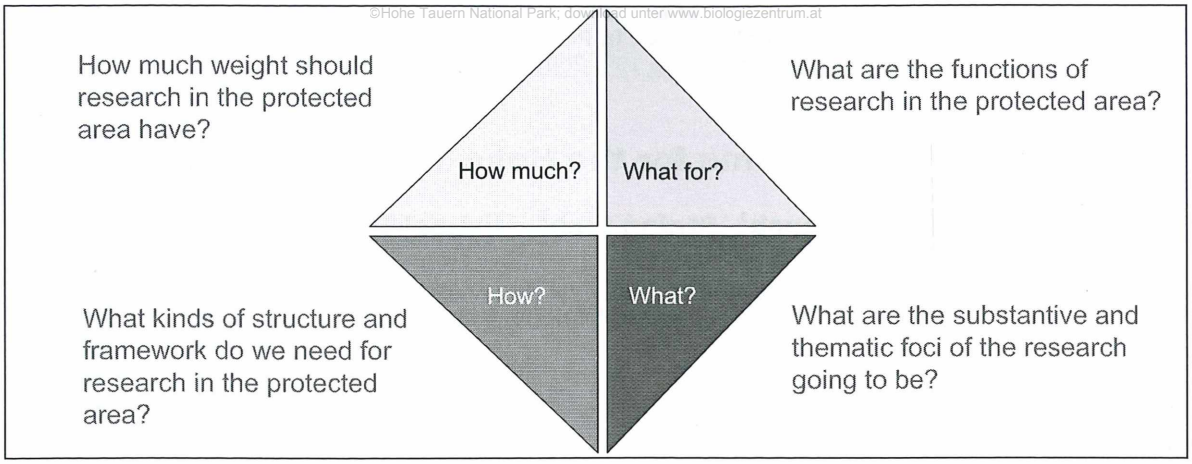

Figure 1: the four areas for developing the Research Programme Hohe Tauern National Park 2020 (Source: E.C.O.).

Starting point

The evaluation had shown that research commissioned and funded by the Hohe Tauern National Park was focussing on management issues. Research which aimed mainly for a general increase in knowledge or basic research was clearly subordinate (see Fig. 2). Natural science research dominated (see Fig. 3).

The new research programme, which – including evaluation – is due to run until 2020, confirms these priorities again for the next decade.

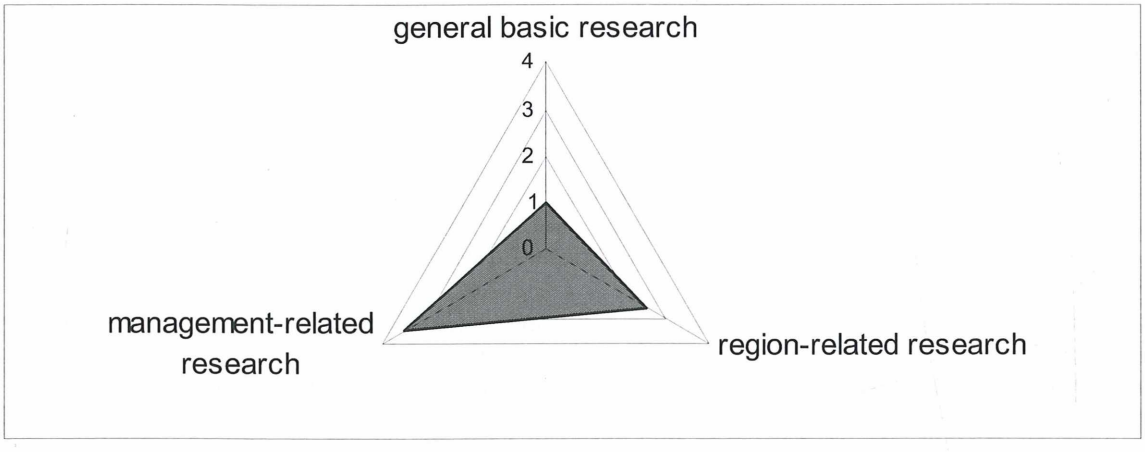

Figure 2: Research in Hohe Tauern National Park (Source: E.C.O.).

Results

Research includes all activities designed to answer substantive questions, the results of which represent an information gain for scientists and practitioners. It is essential that ways be found to ensure ready access to data and results and their long-term availability.

In general, research in Hohe Tauern National Park should aim for inter- and transdisciplinarity, long-term prospects and a regional focus within an international context.

"Why" research

Purposes of research in Hohe Tauern National Park:

- to provide basic information for effective conservation and sustainable development of the national park and its region (basis for management)
- to monitor, interpret and assess as well as to document the status of the area and its natural developments (general epistemological gain, interpretation of the region)
- to explore the role and responsibility of the national park within the region and within society (socio-political responsibility)

In its effects, the research should strongly relate to practice.

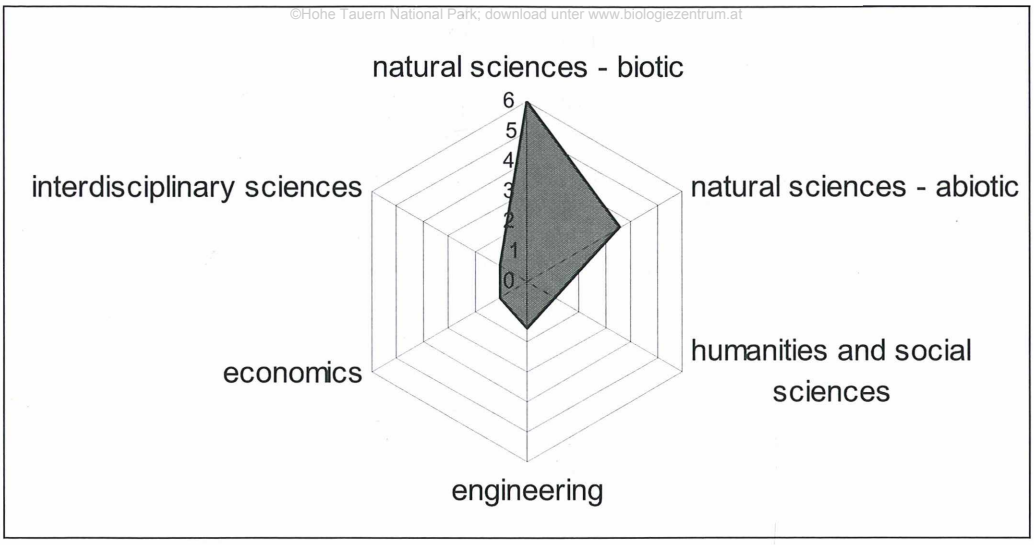

Figure 3: Research themes in Hohe Tauern National Park (Source: E.C.O.).

"What" research

The 2020 Research Programme identifies six thematic foci:

- systematic research into ecosystem processes and longitudinal studies
- capture and assessment of biodiversity within the protected area
- accompanying research into national park management
- development of technologies and processes tailored to the protected area
- socio-economic and cultural-educational national park research
- capture and assessment of the abiotic situation in the protected area

As regards general epistemological gain, the Hohe Tauern National Park aims not only to create an inventory of its relevant protected resources (species, processes) but also to explore systemic links (e.g. comparative studies along conservation and utilization gradients) and effects (anthropogenic influences, conservation status).

Numerous projects on capturing biodiversity have already been implemented (e.g. butterflies, grasshoppers, birds, bats, lichen), also projects on the natural resources at the levels of habitat and landscape (e.g. aerial image interpretation in the HABITALP project; mapping of moors, alluvial lands, biotopes and utilization of alpine pastures). Systemic links, processes and interdependencies are currently being researched in relation to specific causes (e.g. the influence of human land use on the habitat requirements of the red-spotted bluethroat, modelling the extent of present and future permafrost).

A related aim is the establishment of an intricate system of long-term measuring networks and monitoring programmes to facilitate the recognition, interpretation and forecast of changes and their effects on a secure data basis.

Monitoring programmes have already been implemented in species protection, e.g. for bearded vulture, golden eagle and capra and in habitat changes after the end of utilization, e.g. in the special protected area Piffkar.

In terms of management research, the Hohe Tauern National Park aims to develop practice-oriented action knowledge, based on scientific methods and insights. The focus is on measures for monitoring success and efficiency with a view to long-term quality assurance.

Projects already implemented include attendant game-biological research in the leased hunting grounds of the national park and the attendant research on the reintroduction of the indigenous brook trout.

"How to" and "how much" research

One of the greatest challenges in implementing the research programme is the large size of the national park. A suitable framework is needed to ensure feasible and affordable research management, which should also be easy to coordinate between the three federal state national park administrations, if needed.

There are four basic categories of research in Hohe Tauern National Park:

free research covers research activities within the protected area which are neither commissioned nor supported by the national park. The Hohe Tauern National Park endeavours to have knowledge of any resulting publications.

funded research covers research activities (co)funded by the national park on submission of a research proposal.

contract research covers research activities commissioned and (co)financed by the national park.

internal research covers research activities of national park staff.

The four categories are situated along a gradient of accountability towards the national park. Contract research has priority.

The national park administrations coordinate research, act as interface for any publishing activity and are responsible for the internal technical infrastructure. They are supported in their task by targeted research cooperation with selected public institutions. An example is the Haus der Natur in the city of Salzburg which cooperates on maintaining the biodiversity database.

As regards documenting research results and making them available, the Hohe Tauern National Park aims to establish continuously updated catalogues in the short term and make them available online.

An online media database (11,400 media) and an online map service have already been established. Currently work is under way to create an online project database, an online bibliography (12,931 references from the natural sciences) and an online version of the biodiversity database (191,119 collection, monitoring and literature data of 8,270 species).

In addition, every four years the Hohe Tauern National Park is organizing an international symposium on research in protected areas. The first one was held in 1996. These meetings not only serve to make participants aware of who is currently researching on which topics and where, they also promote debate on methods and results, provide an opportunity to intensify contacts and partnerships and inspire new research questions.

References

BAUCH K., JUNGMEIER M. & LIEB S. (2007): Forschungskonzept Nationalpark Hohe Tauern 2020. Studie im Auftrag von: Nationalpark Hohe Tauern, Bearbeitung: E.C.O. Institut für Ökologie & Nationalpark Hohe Tauern, Klagenfurt, 80S.

JUNGMEIER M. (2001): Vegetationskundliches Langzeitmonitoring im Nationalpark Hohe Tauern. Symposion zur Forschung im Nationalpark Hohe Tauern vom 15-17.2001 auf der Burg Kaprun, Nationalparkrat Hohe Tauern, Matrei i. O., 71-77

WAGNER J., JUNGMEIER M., KÜHMAIER M., VELIK I. & KIRCHMEIR H. (2005): IPAM-Toolbox. An Expert System for the Integrative Planning and Management of Protected Areas. In: Office of the Carinthian government (Hrsg.): IPAM Result Box. Expert System and Pilot Actions for Integrated Protected Area Management. Office of the Carinthian Government, Dept. 20 Spatial Planning, Klagenfurt, 34S

ZOLLNER D., KIRCHMEIR H., LOISKANDL G. & JUNGMEIER M. (2006): Leitfaden für Forschung und Monitoring im Biosphärenpark Wienerwald. Studie im Auftrag von: Österreichisches MaB-Nationalkomitee an der Österreichischen Akademie der Wissenschaften. Bearbeitung: E.C.O. Institut für Ökologie, Klagenfurt, 99 S.

ZOLLNER D., KIRCHMEIR H., REUTZ-HORNSTEINER B. & JUNGMEIER M. (2006): Leitfaden für Forschung und Monitoring Biosphärenpark Großes Walsertal. Konzepterstellung im Auftrag von: Österreichisches MaB-Nationalkomitee an der Österreichischen Akademie der Wissenschaften. Bearbeitung: E.C.O. Institut für Ökologie, Klagenfurt, 90 S.

(www.hohetauern.at/de/forschung.html)

Contact

Kristina Bauch
kristina.bauch@salburg.gv.at

Hohe Tauern National Park Salzburg
Gerlos Str. 18
5730 Mittersill
Austria

Stefan Lieb
lieb@e-c-o.at

Michael Jungmeier
jungmeier@e-c-o.at

ECO Institute of Ecology
Kinoplatz 6
9020 Klagenfurt
Austria