

SKIAREAS AND ENVIRONMENT

MICHAEL MANHART

Skiareas and their cablecars and lifts are transporting people, are building and maintaining skiruns, toboggan-slides, cross country-trails and foot-paths, are organizing parking-lots and traffic-infrastructure, such as a ski-busses, etc..

Skiareas, concerning their influence on the environment, are standing in the limelight.

Together with other partners, such as the tourism in general and the agriculture, **skiareas are responsible to take care for an intact environment.**

About as long as the list of their activities is the list of measures, skiareas are taking or should take to prevent harm to the environment.

To organize skiareas in itself, one of the best instruments is ISO 9001: It gives a clear structure to the organization and everybody knows the content and the borders of his special job. – On top of this **ISO 14001** is organizing that part of skiarea-management, that is **concerning the environment**. This is also containing the costs, of course.

Organizing skiareas in the frames of ISO 9001 und **ISO 14001 gives clear rules** of management with savings concerning the number of stuff and amount and quality of materials, needed for the running of the skiarea. So it saves money and gives a nice picture to our guests and also the tree-huggers!

The main fields are:

Cablecars, lifts and buildings: style of construction, architecture, fitting into the landscape.

Kind and number, reduction of liftlines, uphill-capacity.

Techn.Rat Dipl.-Ing. MICHAEL MANHART
A-6764 LECH AM ARLBERG
Skilifte Lech, Ing. Bildstein Ges.m.b.H.,
Rüfikopf-Seilbahn AG,
Bergbahn Lech-Oberlech, Hoch KG
Tel. A-(0)5583/2332-0, Fax. -30
Hotel Hinterwies, Tel. 2531-0

Quality of **materials** used.

General influence on the environment, for **example** through: kind of heating, waste-water, garbage-separation, oilseparators, cleaning-, lubricate- and cooling-materials, filters, colours, batteries, and so on. In addition to this come measures to avoid noise, smell etc..

How to gain **energy** is also a subject for the future: solar- and wind-energy could be of interest. But for that the world-wide energy-prices are still to low.

Everybody can put up his **own catalogue** for his special situation.

Ski-runs (the same rules fit for cross country-trails, toboggan-slides, walking- and mountainbike-paths):

In general, when **soil-pushing**, the changed landscape should fit into the surrounding terrain. The forest should be touched as little as possible. Water also should be disturbed as little a possible, but it has to be watched. The capacity of the runs should fit to the capacity of the uphill-transportation.

When designing new skiruns, there are some easy rules: Thake the topsoil off with excavators and store it sideways. After the correction including draining-measures put the topsoil and the vegetation-layer back on top. For revegetation there are natural seeds available since a few years. They fit into the nature with little care afterwards. All this also saves money!

A few catchwords concerning **maintenance of slopes in summer**:

If possible, organic fertilizers. Short-cutting of the vegetation or grazing with not to heavy animals at the beginning. Collection of waste. Irrigation (by use of the snowmaking-system). Fences against skiing in young forests, and so on.

Maintenance in winter: preparation with modern grooming-vehicles and equipement, providing of a high-enough snow-layer, for example with the help of **snowmaking**.

There are **two basic rules**: produce enough snow, to protect the topsoil from frost and mechanical influences. Manage your water-resources so, that the environment is not destabilized. - To that subject I could hold a special speech for it's own.

Finaly there are the **avalanche-protection-measures**:

On a few places you will need permanent avalanche-protection-buildings, but they are uggly! Afforestation might help too. In general skiareas are blasting avalanches by means of charges, thrown by hand, by use of special cablecars, helicopters and guns. The best and allready widely used are new machines, that can be controlled „from home“ by use of a PC. and radio, such as Gazex and the **newly developed „Avalanche Blasters“** by Doppelmayr. - About this I want to show you a short video afterwards. - By using all this and maintaining the environment, you have to watch the impact on snow, vegetation, topsoil, game. So use suitable terms and think about the amount of snow, you are moving, and its effects, for example to the forest, but also to the snowmanagement at your runs.

Limiting the number of skiers might be a measure, also your **management** of parkinglots and **traffic** in general. Busses can move more people than privat cars, concerning the parking-area, and their drivers know how to put on chains!

The above list of environmental aspects is not complet by far. But I think, I spoke about the main aspects. **Whatever you do concerning the environment, must fit into the local situation.** So there are no general recipees.

But **watch also the environment**, when you are managing your skiareas, besides the organization in general and the costs. **It pays for sure**, at least at the long-run.

I hope, that I could give you some ideas to my subject „Skiareas and environment“ from a world-wide point of view..

At the end I want to show you the video about the „Stationary Avalanche Blaster“. If you want to know more details about this, ask Doppelmayr all over the world.

Avalanche Blaster-video.

Discussion.